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ABSTRACT

Three treatment groups were used to examine the effects on general reading comprehension of teaching and testing four subskills related to the identification of the main idea in prose materials. Subjects were 157 tenth-grade students. Besides a control group, two experimental approaches were used, consisting of subjects who were both taught four main idea subskills and also tested for mastery of them, and subjects who were only tested for mastery of these subskills. The effects of these approaches were measured in terms of subjects' general reading comprehension performances on a posttest and delayed posttest. The results show that a combination of teaching-and-testing main idea subskills does result in a sustained positive effect on general reading comprehension; furthermore, teaching-and-testing masters tend to retain their improved performance while the testing-only masters do not. Eight appendixes provide technical information and sample materials used in the study. (RL)

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Technical Report No. 449

Part 1 of 2 Parts

EFFECTS OF SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING ON GENERAL READING COMPREHENSION OF TENTH GRADE POOR COMPREHENDERS

by

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Report from the Project on
Studies in Reading, Language, and Communication

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March 1978

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EFFECTS OF SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING ON GENERAL READING COMPREHENSION OF TENTH GRADE POOR COMPREHENDERS

Paul J. Blohm

Under the Supervision of Professor Wayne Otto

ABSTRACT

The purpose of this study was to examine the effect on general reading comprehension of teaching and testing four subskills related to the identification of the main idea in prose material. Two general questions guided the planning and implementation of the study. First, will teaching-and-testing and testing-only main idea subskills with poor comprehenders have a measurable positive effect on their general reading comprehension? Second, will the general reading comprehension of students who demonstrate mastery of teaching-and-testing the subskills be improved more than the general comprehension of those who demonstrate mastery of testing-only?

Five hundred fifty tenth grade students were randomly assigned to three treatments in nineteen English classrooms in a central-eastern Wisconsin high school. Although all 550 students in the 19 classrooms received one of the assigned treatments, 157 students were identified as the subjects for the study, with approximately one-third of them included in each of the three treatment groups. The Instruction Group was taught and tested for mastery of the main idea subskills. The Testing Group received only the mastery tests for the four subskills.

The Control Group received no specific treatment during the experiment. The experiment was conducted over an eight-week period and the groups' general reading comprehension was assessed immediately following the experiment and again after one month. Analyses of variance and post-hoc t-tests of significance were computed to determine the differences between and among the three groups.

Immediately following treatment, the comprehension scores of the Instruction Group were (1) significantly higher than were the scores of the Control Group but (2) not significantly higher than were the scores of the Testing Group. One month later, the comprehension scores of the Instruction Group were (1) significantly higher than were the scores of the Control Group and (2) significantly higher than the scores of the Testing Group. The comprehension scores of the Instruction Group did not change significantly over the one-month delay, while the scores of both the Testing Group and the Control Group dropped significantly. Immediately following treatment, the comprehension scores of the subjects who demonstrated mastery in the Instruction Group were not significantly higher than were the scores of the subjects who demonstrated mastery in the Testing Group. After one month, however, the scores of the Instruction Group masters were significantly higher than were the scores of the Testing Group masters.

Results related to the first question suggest that a combination of teaching-and-testing main idea subskills enhances general comprehension performance immediately following treatment, though not significantly more than testing-only. After one month the three experimental groups differed from each other. The most substantial difference was between the taught-and-tested group and the untreated control group. The conclusion, then, is that a combination of teaching-and-testing main idea subskills does result in a sustaining positive effect on general reading comprehension.

The results related to the second question suggest that, for immediate purposes, it makes no difference in comprehension performance whether or not subjects demonstrate mastery of subskills after teaching-and-testing or after testing-only. One month later, however, there is a difference in favor of the group that was taught-and-tested. The suggestion is that the teaching-and-testing masters tend to retain their improved performance while the testing-only masters do not.

Wayne Otto

CHAPTER I

RATIONALE

The primary purpose of the study was to examine immediate and delayed treatment effects of two skill-based approaches to reading instruction with selected poor comprehenders in a secondary school. The effects of the approaches implemented were measured in terms of subjects' general reading comprehension performance. The two experimental approaches consisted of (a) subjects who were taught four main idea subskills and tested for mastery, i.e., skill-based instruction, and (b) subjects who were tested only for mastery of the four main idea subskills, i.e., skill mastery testing. The organization of the study was comprised of a posttest-delayed posttest control group design with randomization. The effects of the two experimental treatments were determined with one control and two experimental groups.

Background of the Study

The various effects of selected skill-based instruction and skill mastery testing treatments on student reading performance have been studied. References to specific studies are cited in the Review of the Literature section of the thesis. The literature is characterized by the following:

1. Subjective and empirical evidence supports a skills orientation to focusing reading instruction (Athey, 1977; Otto, 1977; Samuels, 1976) and a multi-skill theory of reading comprehension (Chester, 1971; Davis, 1944; Hall & Robinson, 1945; Sochor, 1959; Spearritt, 1972).
2. Studies of the effect of skill-based comprehension instruction on general reading comprehension show little or no significant results when compared to other treatments (Askov, 1970; Dickey, 1976; Nimz, 1974). Despite these results, the development of commercial programs based on the skill-based approach has increased in recent years, and their utilization has become more widespread in elementary and secondary schools.
3. The use of skill mastery tests in lieu of prescribed skill-based instruction may aid in students' acquisition of specific skills and improve their level of general reading comprehension performance (Laycock, 1955; Downing, 1974; Hoff, 1974).
4. Studies show that the results of an experimental treatment could be influenced by the passage of time between the immediate posttest interval and the delayed posttest interval (Hovland, Lumsdaine, & Sheffield, 1949; Campbell & Stanley, 1963; Orr, 1968; Vergason, 1966).

Definition of Terms

Specific terms used in the study are subject to various interpretations and definitions because they are used in different ways in the literature. For the purpose of this study, they are defined as follows:

Behavioral objective: An instructional objective that includes a description of observable or measurable behavior (Otto & Chester, 1976).

Criterion-referenced test: The instrument used to measure the end result of an instructional sequence or an experimental treatment (Otto & Chester, 1976). Criterion-referenced tests are designed primarily to provide information which can be related meaningfully to specific standards of performance that have been determined independent of the measurement process. Norm-referenced tests are designed primarily to provide comparative information which can be related to standards that are determined as part of and are dependent upon the measurement process (Womer, 1974).

Empirical hierarchy: A sequence of skills, derived from an analysis of the terminal behavior into smaller or lower-level units, which has been validated through research or field testing, e.g., in order for a student to pronounce a new word, three essential subskills must be completed in the following sequence: (1) a left-to-right visual scan; (2) letter-sound knowledge; and (3) ability to blend the sounds to form the words (Athey, 1975; Samuels, 1976).

General reading comprehension: The sum total of raw scores on the General Reading (i.e., total correct answers out of 20) and Comprehension (i.e., total correct answers out of 20) subtests of the Diagnostic Reading Tests, Survey Section: Upper Level (Triggs, et. al., 1952).

Instructional objective: A statement describing the desired results that may be expected from the particular unit or sequence of instruction (Otto & Chester).

Main idea: A global summary skill, subsumed by a number of discrete subskills: (1) identifying a topic in a passage with an organizer and all relevant details; (2) identifying a topic without an organizer and all relevant details; (3) identifying a main idea statement with an organizer and relevant and irrelevant details; and (4) identifying a main idea statement without an organizer and relevant and irrelevant details (Klumb, Thompson, & Spiegel, 1976e).

Main idea statement: A sentence in a passage which contains a topic plus additional information. A main idea statement gives a more complete description of the topic (Otto & Kamm, 1977).

Mastery: 80 percent attainment (8 correct answers) on each of four 10-item tests of the Design II: Comprehension Skill Mastery Tests--Test 15: "Topic with Organizer," Test 16: "Topic without Organizer," Test 17: "Main Idea with Organizer," and Test 18: "Main Idea without Organizer" (Klumb, Thompson, & Spiegel, 1976c).

Objective-based instruction: A system of instruction in which instructional activities and evaluation procedures are based on clearly stated objectives (Otto & Chester).

Organizer: A sentence in a passage containing an implicitly stated topic or main idea statement (topic sentence) (Otto & Kamm, 1977).

Pragmatic-empirical approach: A practical approach to reading guided by experience or experiment (Otto & Chester, 1976).

Poor comprehenders: Students who lack essential skills of reading comprehension; that is, students who demonstrate nonmastery (less than 80 percent correct) of items in the Design II: Comprehension Placement Test (Klumb, Thompson, & Spiegel, 1976a).

Relevant details: Sentences in a passage which support or describe a given topic or main idea statement; irrelevant details do not support or describe the general topic (Van Blaricom & White, 1975).

Skill: A delimited set of observable and measurable behaviors viewed within the context of some terminal objective (Athey, et. al., 1975).

(1) Essential skill: A necessary but not sufficient component of one or more terminal objectives defining "reading" (e.g., ability to determine the main idea) (Athey).

(2) Subskill: A necessary but not sufficient discrete and measurable behavior viewed within the larger context of some terminal objective (e.g., ability to identify the topic of a passage viewed within the larger context of determining the main idea) (Athey).

Skill-based instruction: An approach to developing and reinforcing essential reading skills by identifying and providing teacher-directed and learner-focused instructional activities and evaluation procedures based on clearly stated objectives (Klumb, 1976).

Skill-mastery test: A criterion-referenced test intended to indicate not how much a student has achieved relative to other students, but rather whether or not the student has achieved enough to satisfy the minimum requirements of the teacher or the examining agency (Otto & Chester).

Skill-mastery testing: The use of skill mastery tests as a means to promote students' specific skill acquisition (Hoff, 1974).

Topic: A one- to four-word description that explains what the passage is about (Van Blaricom & White, 1975), e.g., the topic of the following passage is "school performs many services":

> A school performs many services for the residents of a community. It offers instructional services for school-age children during the day and, often, courses for adults in the evening. It provides a meeting place for community organizations. It also serves as an active cultural center for plays and concerts. (Robinson, 1961, pp. 26-27)

Assumptions Underlying Aspects of the Study

Derived from investigations referred to in the Background of the Study section, six key assumptions affected the planning and influenced the implementation of the present study. These assumptions also provided a basis for the review of the literature.

Poor Comprehenders

An initial assumption of the study was that subjects identified as poor comprehenders in the present investigation represented a significant population of post-elementary students. As demonstrated in the next section, data concerning the reading abilities of secondary level students show that between 10 and 30 percent of the high school population lacks the essential reading skills necessary to successfully meet the requirements of scholastic activities.

Skills Orientation to Instruction

The development of a skill-based method for teaching specific reading comprehension skills was based on the assumption that a skills orientation provides for focus and direction of instruction.

Multi-Skill Theory of Comprehension

In addition to support provided by a skills orientation, the development of a skill-based method for teaching specific comprehension skills was based on the assumption that reading comprehension consists of discrete subskills.

Skill-Based Instruction

Through a pragmatic-empirical approach, which incorporates the evidence provided by supporters of a skills orientation and multi-skills of comprehension studies, a system of skill-based instruction could be developed and implemented for teaching specific reading comprehension skills. It was assumed that this approach could provide for (1) identifying essential skills, (2) stating behavioral objectives, (3) assessing development of skills, (4) organizing instructional materials and procedures, and (5) managing instruction.

Main idea skill. It was further assumed that the ability to discern the main idea of a passage could be identified as an essential component of the skill-based approach to teaching reading comprehension. Evidence could be provided to substantiate that (1) the main idea skill consists of four discrete subskills and (2) standardized reading comprehension tests consist of a significant component of test items which assess students' ability to derive the main idea of passages. This evidence would then support the use of main idea subskill instruction to examine the effects of the skill-based approaches.

Measuring general reading comprehension. Finally, an assumption was made that teaching four main idea subskills through a skills-centered approach will improve poor comprehenders' performance in general reading comprehension. It was also assumed that an approach, consisting of administering just the four skill mastery tests of main idea subskills designed to assess mastery of the ability to derive a main idea, may [illegible] improve general reading comprehension achievement of poor comprehenders. Evidence exists that shows that results of such experiments may have significant immediate effects, but those effects may not be retained after a passage of time. Ultimately, then, if skill-based main idea instruction and skill mastery main idea testing improved immediate and delayed performance of poor comprehenders in general reading comprehension, then the two approaches would be considered valid.

Related to effects of the two experimental approaches described above to teach main idea subskills, an assumption was made that, in addition to treatment effects, mastery of the two treatments would also affect poor comprehenders' performance on a measure of general reading comprehension.

Review of the Literature

The selected literature was reviewed and is discussed in relation to the assumptions underlying this study.

Poor Comprehenders

General and specific evidence reveals that a significant population of secondary level students may be characterized as poor comprehenders. That is, these students experience serious deficiencies in essential reading skill development which impair their ability to meet the requirements of high school coursework. Further statistics indicate a significant correlation between having reading skill deficiencies and dropping out of high school. Though the data presented in this section are for the most part dated, the findings represent trends that still exist.

In a report published by the National Institute of Education entitled, "Report of the Study Group on Linguistic Communication (1974)," the compiled general statistics indicated that over 12 million people who are 14 or more years old lack the reading comprehension skills of the average American fourth-grader. Harris and Sipay (1961) and Heilman (1972) estimated that approximately one-fourth of the students in secondary schools are in need of carefully-planned instruction to develop comprehension skills. Results of Burton's (1960) survey revealed that up to 20 percent of all junior and senior students require small group or individual work to correct specific reading skill deficiencies. Data collected by Donovan (1955) revealed that 23 percent of freshman and sophomore students entering academic high schools in New York City were found to be lacking essential reading comprehension skills to the degree that they were unable to read required textbooks. Klumb (1976) reported that the reading committee of Duluth Public Schools estimated that between 15 and 30 percent of their high school graduates had serious deficiencies in reading.

The reading summary of the National Assessment of Educational Progress (1972) noted, on a nationwide basis, specific reading skills achievement of thirteen-year-olds (7th and 8th graders) and seventeen-year-olds (12th graders). On measures involving word meanings, visual aids, written directions, reference materials, and fact-getting, 15 to 36 percent of students in both groups were judged unsuccessful. In reading for main ideas 49 percent of the thirteen-year-olds and 32 percent of the seventeen-year-olds were judged unsuccessful. Similar percentages were noted for drawing inferences and critical reading. Had test items been constructed which represent more nearly the reading ability of those tested, the percentages would have been lower (Karlin, 1977). Nevertheless, it is clear from the data that a significant percentage of students in both groups lacked the essential comprehension skills necessary to understand the ideas presented in books and other materials.

Data also revealed that reading comprehension skill efficiency is linked importantly with the holding power of the high school

" . . . since the student having difficulty with his work is the potential dropout" (Burton, 1960). Penty (1956) collected data which showed that more than three times as many poor comprehenders as able ones dropped out of high school, with the highest percentage of dropouts coming in tenth grade. Penty stated:

> A study of the disparity between reading ages and mental ages of the poor readers who dropped out of school and of the poor readers who remained in school but experienced difficulty in reading, revealed that a very large percentage of the young people in both groups had "potential in reading ability." With proper help, these students could have shown marked improvement in reading ability, which would probably have contributed to better scholastic achievement and personality. (p. 44)

Through the evidence provided--that there exists a significant population of post-elementary poor comprehenders--the literature, then, supports the assumption that the described population may be identified for this study.

Skills Orientation to Instruction

Otto (1977), Samuels (1976), and Athey (1977) provided theoretical support for taking a skill-centered approach to the development of reading comprehension. Otto (1977) provided a rationale for considering the teaching of specific reading skills, by stating:

> To me, the answer is clear and it is inescapable: Because we need them in order to focus instruction. Or individualize instruction . . . or differentiate instruction . . . whatever terminology we use to describe a process whereby we (a) decide what we want learners to know, (b) find out what individuals do and do not know, and (c) teach individuals--probably with other individuals who have the same need--what they don't already know. Anyone who rejects the notion of focused instruction rejects skills. (p. 195).

Otto sees skills as the "substance" and skills instruction as the "means" for sharpening the process of developing reading comprehension. Skills must be identified, taught, and applied in context to aid children in their movement toward independence in reading comprehension.

Further theoretical support for a skills orientation to reading instruction was offered by Samuels (1976). He acknowledged the point made by critics of the subskill approach that too much emphasis can be placed on subordinate skills. Samuels, however, maintained that the critics fail to recognize the importance of subskills in the developmental sequence of skill acquisition.

> Just because fluent readers are able to derive meaning from the printed page is no reason to believe that beginning readers can do the same or that we can transfer the sophisticated strategies of the fluent reader to the beginning reader. While it is true that sophisticated strategies can be taught to the less sophisticated, these transfers of skills have been accomplished by doing a task analysis of the sophisticated strategies and teaching these subskills to the beginner. (p. 176)

Though critics of the subskill approach point out that deriving meaning from print is destroyed by taking a whole and breaking it down, current research suggests that before dealing with wholes, smaller aspects, i.e., subskills, must be mastered first (Bishop, 1964; Jeffrey & Samuels, 1967; Samuels, 1976). Results of studies by Bishop (1964) and Jeffrey and Samuels (1967), which examined the controversy between letter-by-letter and whole word processing in word recognition, indicated that familiar words can be processed by fluent readers as a unit while unfamiliar words tend to be processed letter-by-letter.

Samuels (1976), in support of Otto (1977) and Athey (1977), stated that the antagonistic relationship between the holistic and subskill approaches may be a non-issue. Both approaches acknowledge subskills. Subskill approaches begin with smaller units (subskills) and move to larger, more complex units, while the holistic approach begins with the larger unit and moves to smaller units. Another similarity between the holistic and subskills approaches is that both recognize the importance of diagnosing reading difficulties and the need to remedy the problems. Samuels stated:

> The subskill approach, however, attempts to reduce the number of students who will experience difficulty with reading by teaching the prerequisite skills before a problem appears. (p. 177)

Athey (1977) agreed with Samuels (1976) and Otto (1977) that neither the holistic nor the subskills approach needs to exclude the other; "indeed, one would hope it would not" (p. 233). Athey explained that even the most ardent supporter of a language-experience approach to reading instruction will find it a necessity to include some skill-building in the classroom, " . . . so why not make it systematic?" (p. 233).

Referring to the point raised earlier by Samuels (1976, p. 176) regarding the necessity of doing a task analysis of sophisticated strategies of fluent readers and teaching these subskills to the beginner, Athey (1977) added:

> (Samuels' point) seems to imply that the skills approach is only for, or at least more appropriate to, the beginning or intermediate reader. I would like to suggest, on the contrary, that fluency is not an all-or-none

> state, and that even mature readers could perhaps benefit from sharpening some of the component skills. . . . (p. 234)

Finally, Athey, Otto, and Samuels referred to the possible danger that teachers may become so engrossed in the skills approach that sight of the major goal is lost. They cautioned that " . . . any method is subject to misuse at the hands of the misguided" (Athey, p. 234). What is needed is a greater appreciation on the part of practitioners as to what the skills approach is designed to do, and what it can and cannot accomplish.

The selected literature surveyed in this section, then, supports the assumption that a skills orientation may be taken to develop reading comprehension. It provides for focusing instruction, based on a process whereby needed skills are identified, taught, and applied in context to aid students in their development toward independence in reading comprehension.

Multi-Skill Theory of Comprehension

Instrumental to rationalizing a skill-based approach to comprehension instruction is the assumption that reading comprehension consists of discrete skills. Although the research differs over the number and specificity of identifiable and measurable skills, there is significant empirical evidence of the existence of a multi-skill theory of comprehension (Chester, 1971; Follman, Lowe, & Pfost, 1972). The correlational analyses, factor analyses, and reviews of factor analytic studies of reading comprehension presented below exemplify support for the multi-skill theory.

Correlational analyses. Since Thorndike's (1917) study of common mistakes in paragraph reading, other early attempts were carried out to examine the components of comprehension. Studies conducted by Richards (1929), Berry (1931), Touton and Berry (1931), Dewey (1935), and Traxler (1941) produced extensively varied lists of subskills. These studies yielded subskills ranging from Dewey's list of two skill characteristics, i.e., locating facts and inferential thinking (1935), to Berry's list of sixteen, i.e., identifying main and subordinate topics, select supporting details, visualize what is being read, note new or different terms, understand individual words, infer the meanings of unknown words, understand the writer's point of view, interpret the writer's purpose, follow sequence of intricate detail, ignore irrelevant details, isolate essential parts of an idea, note restrictive modifications, relate parts of a reading selection to its whole, and relate meaningfully essential ideas to each other (1931).

Factor analyses. Feder (1938) used factor analysis techniques to analyze a matrix that included tests of factual reading, inferential reading, appreciation, and rate of reading. Using specially designed maturity tests of comprehension, Feder concluded from the collected data that reading for information and reading for inference are relatively independent skills.

The subtest scores of the Iowa Silent Reading Test, the vocabulary section of the Iowa English Training Examination, and the reading mathematics section of the Iowa Mathematics Aptitude Test were factor analyzed by Pankaskie (1940). Three factors were tentatively identified as speed of comprehension, vocabulary, and ability to find answers to questions. Subtests of the Iowa Silent Reading Tests were not found to be "pure" measures of the three identified factors (Chester, 1971).

Langsam (1941) factor analyzed the reading and intelligence test scores of college freshmen. She identified five factors: verbal; perceptual; word; number; and seeing relationships.

The most widely known early factor analytic study of comprehension was conducted by Davis (1944). His analysis was the first to make use of tests especially constructed to measure the mental skills involved in reading. After an extensive review of the literature in the field, he derived a list of nine testable skills:

1. Knowledge of word meanings
2. Ability to select the appropriate meaning for a word or phrase in light of its particular contextual setting
3. Ability to follow the organization of a passage and to identify antecedents and references in it
4. Ability to select the main thought of a passage
5. Ability to answer questions that are specifically answered in a passage
6. Ability to answer questions that are answered in a passage but not in the words in which the question was asked
7. Ability to draw inferences from a passage about its contents
8. Ability to recognize the literary devices used in a passage and to determine its tone and mood
9. Ability to determine a writer's purpose, intent, and point of view, i.e., to draw inferences about a writer (p. 185)

Davis computed the intercorrelation among the nine tests and interpreted a factor analysis of the results as indicating the presence of nine factors. Six of the nine factors were established as being significant: word knowledge; ability to answer questions that are answered in a passage but not in the words in which the question is asked; ability to draw inferences; ability to define a writer's purpose; ability to recognize literary devices; and ability to follow the organization of a passage. Even though the factor analysis identified six components, Davis concluded that only word knowledge and verbal reasoning in reading "are measured with sufficient reliability to warrant their use for practical purposes" (p. 194).

Hall and Robinson (1945) conducted a factor analysis of grade point ratio, reading, and other tests--including content areas tests, maps tests, and marker tests from Thurstone's primary mental abilities. The findings of their study showed the existence of six factors: attitude of comprehension; rate of inductive reasoning; verbal or word meaning; rate for unrelated facts; chart-reading skill; and an unnamed factor.

Using a set of specific tests to measure aspects of reading comprehension, Davis (1968) reinvestigated the unique variances of subtests of reading comprehension. Davis concluded that "comprehension among mature readers is not a unitary mental skill or operation" (p. 510). His factor analysis indicated that 32 percent, the largest percentage of unique variance, occurred in the case of the "memory for word meaning" skill. The second largest percentage of unique variance, 20 percent, occurred in the case of the "drawing inferences from content" skill. Three other skills which showed appreciable percentages of unique variance were "following the structure of the passage;" "recognizing a writer's purpose, attitude, tone, and mood;" and "finding answers to questions asked explicitly or in paraphrase."

Vernon (1962) supplied further justification for the multifactor (skill) theory of comprehension. General comprehension and vocabulary were found to be separate factors. He also stated that a distinction can be made between inferential and factual comprehension.

In a recent analysis, Spearritt (1972) reanalyzed Davis' (1968) data. The two main factors Spearritt identified were "reasoning in reading" and "memory for word meaning." Two additional factors were also identified, "recognizing a writer's purpose, attitude, tone, and mood" and "ability to follow the structure of a passage." Spearritt interpreted these four factors as being in harmony with Davis' (1968) uniqueness analysis findings.

Reviews of factor analyses. Sochor's (1959) review of six factor analytic studies of reading comprehension supports the multi-skill theory. She observed that the six studies yielded three common factors: (1) a word factor, defined as dealing primarily with individual word forms and their meanings; (2) a verbal factor, defined as a person's ability to see relationships among ideas represented by words in context but which does not involve much abstract reasoning; and (3) an abstract reasoning factor.

Lennon (1961-1962) reviewed 12 factor analytic studies of reading comprehension. Results of the studies indicated that there were four factors basic to reading: (1) general verbal ability; (2) comprehension of explicitly stated material; (3) comprehension of implicitly stated material; and (4) appreciation.

A third review in support of the multi-skill theory of comprehension is that reported by Chester (1971). He concluded that the lack of consistency in findings regarding generalities and specificities of comprehension abilities is obvious. Despite the widespread disagreement among educators as to the subskill factors of comprehension, the majority of the research indicates that most of the measurable variance in tests of reading comprehension can be accounted for in terms of a small number of factors, such as: understanding word meanings; following passage organization; drawing inferences; recognizing a writer's purpose; grasping the central thought, locating explicit answers to questions; seeing relationships among ideas, and discerning sequence of ideas (Chester, 1971; Davis, 1944, 1968; Feder, 1938; Hall & Robinson, 1945; Langsam, 1941; Pankaskie, 1940; Spearmitt, 1972; Vernon, 1962).

In summary, the studies cited in this section provide support for the assumption that reading comprehension is comprised of discrete skills. The correlational and factoral analyses indicated that, although there are differing views regarding the number and specificity of skills, there is significant empirical evidence to acknowledge the existence of a multi-skill theory of reading comprehension. These empirical findings combined with the theoretical support for a skills orientation to comprehension instruction provide the foundation for the development of a systematic skill-based approach to teaching reading comprehension skills.

Skill-Based Instruction

Recognizing that there are a number of conflicting points of view concerning a skills orientation to instruction and the components of comprehension, developers of skill-based systems for reading instruction seek through a pragmatic-empirical approach to capitalize on the commonalities of the views rather than the diversities (Chester, 1971; Otto, 1976). Through operational definitions, objective-centered criteria, and specific skills selection based on historical, empirical, and consensual support, a system of skill-based instruction is able to identify and measure comprehension skills which can be taught, and to facilitate the instruction of the selected skills (Chester, 1971). Based upon the above-stated criteria, it is assumed that a program of systematic skill-based instruction can provide for: (1) identifying essential comprehension skills, (2) stating behavioral objectives, (3) assessing skill development, (4) identifying and organizing appropriate teaching/learning materials and procedures, and (5) managing instruction.

Rationales for implementing a clearly defined skill-based scope and sequence of reading comprehension skills are provided by Otto and Chester (1976) and Otto and Kamm (1977), and are presented below for two purposes. First, the rationales serve to demonstrate that it is indeed possible to provide a system that will permit instructors to teach reading comprehension skills with confidence and efficiency

(Otto, 1977). Second, Otto and Chester's Objective-Based Reading (Otto & Chester, 1976) and the Wisconsin Design for Reading Skill Development: Comprehension (the outcome of Otto and Kamm's project to develop and revise a systematic approach to reading comprehension instruction) provided the conceptual models for the development of the Design II: Comprehension (Pilot Edition) (Klumb, 1976), a skill-based reading comprehension program developed for use in secondary schools. The Design II: Comprehension provided the necessary framework for planning, implementing, and measuring student reading comprehension skill acquisition in the present study.

Pragmatic-empirical approach. All of the developmental efforts for the two Design approaches have been guided by what Otto (1975) refers to as a pragmatic-empirical approach. Though defined briefly in the Definition of Terms section of this study, an excerpt from the last chapter of Objective-Based Reading (Otto & Chester, 1976) provides an elaborated explanation of the approach.

> . . . we have described what amounts to a pragmatic-empirical approach to the teaching of reading. By pragmatic we mean "practical;" and by empirical we mean "guided by experience or experiment." The approach recognizes that in order to deal effectively with individual differences, teachers must adapt instruction to the individual student. The differentiation of instruction through the use of (skills and) objectives is presented as a practical way to deal with differences among individuals. Our suggestions for implementing the objective (skill)-based are derived from personal observations in developing and working with the Wisconsin Design for Reading Skill Development, from experiences of many teachers and principals, and from data gathered in more formal, field test situations. But what we have described represents only a beginning. Change is implicit in a pragmatic-empirical approach because experiment and experience will be a constant source for modification and

> improvement in the practices and procedures employed in teaching reading. (p. 232)

Otto (1977) further explained that the pragmatic-empirical approach is applied in an attempt to bridge the gap between the needs and realities of the classroom and the inputs and demands of the researcher.

Identifying essential comprehension skills. The first step toward organizing skill-based instruction in reading comprehension must be to identify the skills that are essential to success in comprehending reading material. Many varying lists of comprehension skills have been yielded. At the present time, there is neither "one" empirically substantiated list of comprehension skills which must be mastered nor a prescribed order in which those skills must be mastered (Otto & Chester, 1976).

Though an empirically derived and validated list of skills is not likely to be available in the near future, there is reasonable agreement among (a) teacher and researcher opinion, (b) generation and/or evaluation of specific lists by teachers and researchers, and (c) surveys of skill taxonomies in widely used curriculum texts as to what the essential skills of comprehension are (Otto & Chester, 1976; Klumb, Thompson, & Spiegel, 1976e; Otto & Kamm, 1977; Rude, 1974; Stallard, 1977). A list of essential reading comprehension skills, identified for use with poor comprehenders at the post-elementary level, is presented in Figure 1 (Klumb, et. al., 1976e). The first of two reasons for presenting the list is that it serves as an example of an essential skills list derived through a pragmatic-empirical orientation. Second, the main idea skill and its four

FIGURE 1

ESSENTIAL READING COMPREHENSION SKILLS

1. Getting Meaning from Words
    a. Base Words/Affixes
    b. Homonyms, Multiple Meanings, Synonyms, Antonyms
        1) Homonyms
        2) Multiple Meanings
        3) Synonyms and Antonyms
    c. Context Clues
        1) Explicit without Application
        2) Explicit with Application
        3) Implicit
    d. Organization Cues
2. Getting Meaning from Sentences
    a. Sentence Structure: Simple
        1) Analysis (Detail)
        2) Synthesis (Paraphrase - simple substitution)
    b. Sentence Structure: Compound or Complex
        1) Analysis (Detail)
        2) Synthesis (Paraphrase - order, simple substitution)
    c. Sentence Structure: Compound and/or Complex
        1) Analysis (Detail)
        2) Synthesis (Paraphrase - order, substitution)
3. Getting Meaning from Selections
    a. Main Idea
        1) Topic with Organizer
        2) Topic without Organizer
        3) Main Idea with Organizer
        4) Main Idea without Organizer
    b. Relationships and Conclusions
        1) Synthesis: Sentences
        2) Analysis: Implicit Conclusions
        3) Synthesis: Logical Conclusions
4. Identifying Sequence
    a. Explicit Cues
    b. Verb Tense and Calendar Markers
    c. Implicit Cues

subskills included in the list represent the focus of treatment given to the skill-based instructional group in the present study. (A rationale for teaching main idea skill through a sequence of four subskills is presented later in this review.) The list is arranged in an outline organization to show the relationship of the subskills to each skill of reading comprehension. Historical, empirical, and consensual support for rationalizing the main idea skill and its four subskills, as outlined in Figure 1, is described in detail in a later section of this review.

Stating objectives. Having identified essential skills, they are described by behavioral objectives which set the expectations of behavior once the skills are attained. Otto and Chester (1976) stated that behavioral objectives serve the following two purposes:

> First, they make explicit the behaviors that are essential for mastering a given skill, so they give you a basis for discussing a skill with other people and setting a goal for teaching the skill. Second, they establish observable criteria that permit you to decide when a child has mastered a given skill. (p. 19)

Krathwohl (1965) wrote that it is possible to state behavioral objectives which define broad educational goals into more specific goals for the purpose of constructing instructional materials and assessing specific reading growth. Popham (1969) included behavioral objectives in a four-step model which he considered necessary for developing an instructional curriculum. The four steps are: (1) statement of instructional objectives, (2) preassessment of the learner's previously acquired skills or knowledge, (3) determination of a skills hierarchy or instructional sequence, and (4) pupil evaluation in terms of acquisition of the previously stated instructional objectives. The need for explicit and clearly stated behavioral objectives was echoed by Wittrock (1969) in his suggestion that before decisions and judgments about curriculum and instruction can be reached, the foundation for such decisions and judgments must be made explicit through the utilization of objectives. Mager (1962) wrote that if goals are not clearly defined, it is impossible to effectively evaluate an educational course/program or select appropriate instructional methods and materials. Mager further commented that if a teacher teaches skills that cannot be evaluated, it is not possible for that teacher to demonstrate that anything is being taught. Otto and Smith (1970) provided a rationale for clearly defined goals and a statement of skills:

> 1. The advantage in having a skill statement at hand, then, is that it keeps the specifics of the developmental program prominantly before teachers.
>
> 2. The statement can provide a basis for checking on skill mastery and pacing instruction.
>
> 3. The statement can serve as a guide for the organization of instruction and particularly of instructional materials.
>
> 4. The skill statement, then, can provide a basis for the assessment of the skill mastery of individuals and for the organization of materials to be brought to bear for skill development.
>
> 5. The statement can--if restated in language appropriate for pupils at the several levels--serve as a guide to self-evaluation and self-directed study. (pp. 41-42)

Several benefits and limitations have been identified concerning the use of behavioral objectives in schools by Haberman (1968). Benefits of behavioral objectives cited were that they set clear purposes for instruction, break broad content into manageable bits, sequence content into an hierarchical arrangement, provide for organizing and selecting instructional materials, and clarify the role of research and planning in education. Limitations of the use of objectives cited were that they may cause an overemphasis on skill-building, may be stated with little regard for the realities of the classroom, may limit instruction to content areas which lend themselves to the behavioral, may intrude on teachers' individual styles of organization, and may limit outcomes of instruction to only the intended behaviors.

Otto and Chester (1976) concluded from the summary of the benefits and limitations of behavioral objectives that practitioners should make use of objectives for what they can do and be alert to what they cannot do.

> We have seen behavioral objectives abused when they are prepared without thought and applied without reason. But we have also seen them used to bring order to curriculum planning and focus to instruction. We would be reluctant to advocate behavioral objectives for all areas of the curriculum, but we are convinced that the use of behavioral objectives is both sensible and defensible when applied to the most basic skill areas in reading. (p. 35)

Examples of behavioral objectives stated for essential skills are presented in Figure 2; the objectives parallel and describe the main idea skills outlined in Figure 1 of this review. As stated at the end of the last subsection, a rationale for the four main idea subskills and the stated parallel objectives is provided later in the review.

Assessing skill development. Having identified the essential skills of reading comprehension and described the behavioral objectives

FIGURE 2

MAIN IDEA BEHAVIORAL OBJECTIVES

Getting Meaning from Selections

a. Main Idea

1) Topic with Organizer

Objective: The learner identifies the topic of a passage that includes a stated organizer and relevant details.

2) Topic without Organizer

Objective: The learner identifies the topic of a passage that includes only relevant details but no stated organizer.

3) Main Idea with Organizer

Objective: The learner identifies the main idea of a passage that includes a stated organizer and both relevant and irrelevant details.

4) Main Idea without Organizer

Objective: The learner identifies the main idea of a passage that includes both relevant and irrelevant details and does not include a stated organizer.

(expectations regarding mastery) of those skills, the third step toward organizing a skill-based approach to reading comprehension instruction is to examine individual skill development (Otto & Askov, 1974). The objectives, stated above for the essential main idea skills presented earlier, provide a basis for (1) skill mastery testing, i.e., criterion-referenced assessment, (2) the organization of instructional materials and procedures, and (3) the management and evaluation of instruction (Otto & Chester, p. 41). This subsection is devoted to providing a rationale for utilizing skill mastery tests for assessing skill development, and the two following subsections examine (1) organization of instructional materials and procedures and (2) management and evaluation of instruction respectively.

In interpreting skill mastery tests, no attempt is made to compare the performance of a student with that of others. Rather, one seeks to evaluate performance in terms of an absolute standard, i.e., whether a student has achieved or has failed to achieve specific instructional objectives (Otto, 1973; Prescott, 1971). Otto and Askov (1974) stated:

> . . . an objective (skill)-based approach to reading instruction not only makes (skill mastery testing) criterion-referenced assessment (interpretation) possible, it demands criterion-referenced assessment (interpretation). (p. 114)

Mager (1962) expressed his recommendations for using skill mastery tests to assess reading achievement. He suggested that certain criteria need to be established before achievement can be monitored.

> If you specify at least the minimum acceptable performance for each objective, you will have a performance

> standard against which to test your instructional programs; you will have a means for determining whether your programs are successful in achieving your instructional intent . . . indicate in your statement of objectives what the acceptable performance will be, by adding words that describe the criterion (mastery level) of success. (p. 44)

Otto (1973) provided a summary of some of the salient features of skill mastery measures.

> 1. The overlap of instructional objectives with skill mastery measures is absolute, for the objectives of instruction are the skills.
> 2. Skill mastery measures are used directly to assess the strengths and weaknesses of individuals with regard to instructional objectives.
> 3. Skill mastery measures are directly influenced by experiences in the classroom because the referent (objective) for each test is also the referent for instruction.
> 4. Skill mastery measures indicate the extent to which individuals or groups of students have mastered the spectrum of instructional objectives because they are designed to focus on the objectives in a given situation. (pp. 17-18)

Developers of skill-based approaches, cognizant of the above-stated features, have designed their systems to define their instructional goals with objectives and then assess each student's progress with skill mastery tests (Denham, 1975; Thompson & Dzuiban, 1973). Assessment results are used to determine an individual's success in dealing with specific objectives. The focusing of instruction then amounts to implementing materials and procedures which most effectively facilitate the attainment of those objectives (Otto & Chester, 1976).

Otto (1973) and Brazziel (1972) pointed out the benefits and limitations of utilizing skill mastery measurement. Otto states the main benefit of skill mastery testing is that it gets directly at student performance with regard to specified instructional objectives.

> The sensible management of a system of individualized (skill-based) instruction requires knowledge of each pupil's performance with regard to the objectives of the system. Such knowledge can be derived from . . . (skill-based) . . . measures. (p. 18)

As Brazziel viewed it, the benefits of skill mastery tests far outweigh the limitations. As summarized below, Brazziel stated that six benefits of utilizing skill mastery measures were that they:

> 1. permit direct interpretation of progress in terms of specified behavioral objectives.
>
> 2. facilitate individualized (skill-based) instruction.
>
> 3. eliminate a situation where half of American school children must always be below the median (or always "lose").
>
> 4. enable teachers to check on student progress at regular intervals.
>
> 5. eliminate pressures on teachers to "teach to the test" in order to have children make a good showing.
>
> 6. enable teachers to compile a comprehensive record of the child's development and peg further instruction at clearly identified points. (pp. 52-53)

Otto (1973) listed several limitations in skill mastery measurement.

> 1. Objectives involving hard-to-measure qualities, such as appreciation or attitudes, may be slighted.
>
> 2. Objectives involving the retention and transfer of what is learned may become secondary to one-time demonstration of mastery of stated objectives.
>
> 3. Specifying the universe of tasks (determining critical instructional objectives) to be dealt with is of extreme importance. Good tests will do nothing to overcome the problem of poor objectives.
>
> 4. Determining proficiency standards can be troublesome. (p. 18)

Brazziel (1972) further cited the following limitations.

> 1. Reporting systems will vary and must be interpreted for children moving into new districts.
>
> 2. Further work must be done on constant validation--on whether the given test items are measuring progress accurately.
>
> 3. Comparisons of performances of school districts are not yet readily available.
>
> 4. Materials for teaching toward specified objectives must "always" be available if tests are to be valid. (p. 53)

Both Otto and Brazziel pointed out that to a large extent the limitations involve technical difficulties which psychometrists can be expected to overcome. Both also mentioned that at the present time the skill mastery testing movement is in its infancy and that, consequently, relatively few such tests are available for consideration.

Skill mastery measures are designed for use in skill-based systems to preassess--identify instructional needs and to determine initial placement--and also to postassess—determine, after instruction, whether skills have been mastered (Otto & Askov, 1974; Klumb, 1976; Otto & Kamm, 1977). Skill mastery tests take several different forms, depending on the nature of the objective and the situation. The tests may be formal or informal and they may be written or oral (Otto & Askov, 1974).

The advantage of formal paper-and-pencil skill mastery tests is that they are designed for group administration and rapid scoring. They make it possible to test large numbers of children for initial placement, for periodic checks, and for other purposes that involve across-the-board testing (Otto & Chester). An example of a formal paper-and-pencil skill mastery test is the Design II: Comprehension Placement Test (Pilot Edition) (Klumb, Thompson, & Spiegel, 1976b). Based on the Design II program's objectives, the placement test preassesses students' mastery of comprehension skills. Selected to identify poor comprehenders for this study, details about the placement test are presented in the Materials section of Chapter II. Specific test items of the preassessment instrument are included in Appendix A. Another example of a collection of formal skill mastery paper-and-pencil tests is the Design II: Comprehension Skill Mastery Tests (Pilot Edition) (Klumb, Thompson, & Spiegel, 1976c). The tests are based on behavioral objectives, with one test provided for each objective in the skills sequence. Four comprehension skill mastery tests, each designed to postassess one of the four objectives of the main idea subskills presented in the previous subsections, have been selected for use in the skill-based treatment groups and the skill mastery testing treatment groups of the study. Each of the four tests is further detailed in Chapter II, and the specific items of each test are presented in Appendix C.

In addition, the potential of utilizing skill mastery testing to promote reading comprehension, to be examined through one of the experimental treatments in the study, is presented in a later section of this review.

Organizing materials and procedures. With the wide assortment of commercial reading activity books, commercial resource guides, and curriculum guides being produced daily which add to the already enormous existing amounts, there is no shortage of materials and procedures available to teach reading skills. Otto and Chester (1976) suggest the problem that teachers face is how to locate and organize the particular materials they need to reach specific goals. The skill-based approach serves as an aid to the teacher's problem. Once the objectives are stated for the identified essential skills, the basis is provided on which to organize existing reading materials and instructional materials for efficient retrieval (Otto & Kamm, 1977). The behavioral objectives, which provided for developing skill mastery measures, serve to identify reading selections, workbook exercises, chalkboard activities, word games, puzzles, and so forth, that are likely to promote the development of prescribed behaviors (Otto & Chester).

Several skill-based systems include resource files or teacher handbooks which furnish activities and procedures geared to specific skills. These activities are examples of appropriate instruction for each identified essential skill (Otto & Kamm, 1977). An example of a collection of organized instructional materials and teaching procedures for developing a specified sequence of reading comprehension skills is the Design II: Teacher's Handbook, Comprehension Skills (Pilot Edition) (Klumb, Thompson, & Spiegel, 1976e). The Handbook, which includes teacher-directed activities and learner-focused reading activities, was selected for use in the skill-based instruction treatment groups and is described in further detail in Chapter II.

Examples of teacher-directed and learner-focused activities are each presented in Appendices E and F, respectively.

Managing skill instruction. With both assessment and instruction based on behavioral objectives derived from essential skills, a foundation is set for well-coordinated diagnosis and instruction. To make a skill-based reading instruction proceed smoothly, " . . . a management system that will expedite the systematic grouping and re-grouping of pupils as their skill-development needs change" (Otto & Chester, p. 46). What is necessary is a running record of which of the objectives have and have not been mastered by each student. The information available enables teachers to identify students who need specific instruction related to a given objective and form groups as required.

Individual pupil folders and classroom charts are two of the simplest record forms for managing skill-based instruction, and because teachers make them, they are readily available for periodic inspection (Otto & Chester). By keying each of the comprehension objectives on individual folders or on one classroom chart with space provided next to each objective to indicate mastery, the recorded information is useful in a number of ways:

> 1. It keeps a statement of all reading objectives constantly before . . . the teacher.
> 2. It provides a basis for communication among teachers and a basis for cross-class or interclassroom grouping.
> 3. It provides a concrete basis for discussing progress with individual pupils.

4. It provides a basis for parent-teacher conferences. (Otto & Chester, p. 47)

Regardless of the classroom setting (e.g., team-teaching, self-contained, cross-aged), Otto and Kamm explain that it is up to the teacher to decide when it is appropriate to teach comprehension skills. They recommend that comprehension instruction be incorporated into content area instruction.

> For example, during social studies instruction the teacher can easily reinforce a Central Thought (Main Idea) skill. . . . (p. 28)

Because fitting the main idea skills instruction selected for the study into a daily curriculum demanded a detailed schedule, a separate discussion about scheduling arrangements is included in the Procedures section of Chapter II.

The literature presented, then, suggests that a program of systematic skill-based instruction can identify essential comprehension skills, state them in terms of behavioral objectives which facilitate skill mastery assessment and appropriate organization of instructional materials and procedures, and manage skill-development progress.

Main Idea Skill

Literature providing historical, empirical, and consensual support for "Getting the Main Idea" as an essential skill of reading comprehension which consists of discrete subskills and comprises a significant number of test items on standardized comprehension tests is reviewed here. The evidence is presented to rationalize the use of main idea subskills instruction to examine the validity of the skill-based and skill mastery testing approaches.

Historical support. Numerous subjective analyses with varying lists of reading comprehension skills have been developed which include determining main ideas among their essential skills. Listed among eight essential skills of comprehension, Gray (1969) included the need for readers to determine the main idea or central thought of a selection. Smith (1960) included understanding main ideas among seven other essential thought-getting processes. Robinson (1961) developed his analysis on the basis that students must be able to recognize important key words in sentences, understand basic organizational patterns, draw conclusions, and make inferences, before they can become expert in dealing with main ideas. Reeves (1966) wrote that reading comprehension is identified by the following sequence of component skills: recognize and understand word meanings, get the main idea of a passage, understand the sequence of presented material, be aware of supporting details, and predict outcomes or draw conclusions. Bloom (1956) and Barrett (1968) each included identification and recognition of main ideas at the initial cognitive levels of their respective taxonomies of comprehension. Ruddell (1974) included the main idea skill competency which crosses three comprehension levels—factual, interpretive, and applicative. He cautioned readers that the skill competencies should not be viewed as forming a rigid hierarchy but rather as comprehension competencies that are related to and identified for instructional purposes. Otto and Chester (1976) included main idea as one of six essential components in their hierarchy of comprehension skills. The main idea component, as well as the other five components, cuts across both literal and inferential levels of comprehension and convergent and divergent forms of thinking. Klumb, Thompson, and Spiegel (1976e) identified main idea as an essential skill of reading selections, a broad skill area of their sequential list leading to successful reading comprehension. While particular placement of main idea in the sequence or hierarchy varies from one subjective analysis to the next, each analysis includes main idea as an essential skill and an integral component of reading comprehension.

Empirical support. Several early studies have indicated that main idea is an essential skill of reading comprehension (Yoakam, 1921; Alderman, 1926; Keneally, 1939; Broening, 1941). Yoakam (1921) found that students who were proficient in recognizing main ideas of passages retained a significantly greater percentage of ideas in a piece of factual discourse after one reading than students less proficient. Alderman found that the inability to select the central thought (main idea) of a passage and organize it according to the author's purpose was a major factor in preventing readers from performing at grade level in comprehension. Keneally administered a series of controlled reading passages to sixth graders. Results showed that while 65 percent of the subjects could supply minor ideas or details in an outline, only 10 percent could supply original headlines or topics for the passages. He concluded that specific skill instruction in noting main ideas is essential to increasing and retaining comprehension of passage information. Broening surveyed the reading purposes of 20,000 high school students and analyzed the results of a million and a half diagnostic reading tests to determine what abilities and skills contribute to satisfactory fulfillment of those purposes. Results showed the necessity for rationalized, specific drill in discovering the main idea of factual material for both in-school and out-of-school reading situations.

Consensual support. Authors of numerous reading education texts and school curriculum guides point out the importance of main idea as an instructional comprehension skill. Massey and Moore (1966), Sherbourne (1977), and Zintz (1975) wrote that noting main ideas in selections is perhaps the most essential of the literal skills which build the foundation of reading comprehension. Strang, McCullough, and Traxler (1967), Thomas and Robinson (1977), and Yoakam (1969) stated that a common basic reading skill deficiency which most often interferes with reading for learning is failure to determine the main idea of a selection. Harris and Sipay (1971) wrote:

> The ability to find out the most important thing an author is trying to say—the central thought or main idea--is perhaps the most important of all specific comprehension skills. Selecting the main idea from many other ideas requires comparison, judgment, and discrimination. (p. 307)

Because of this, Harris and Sipay maintained that getting the main idea is often easy for successful readers while poor comprehenders lack skill in reading for the main idea of passages. Some of them read all material too deliberately, and consequently, miss the main point because they get lost in the details. Others, Harris and Sipay continued, read the sentences in selections as separate, unrelated, units of thought. Bowren and Zintz (1977), Karlin (1977), and Ruddell (1974) wrote that before a student can learn to organize and process academic information according to levels of importance, they must first be proficient in recognizing main ideas and significant details. Alexander (1976), Cohen (1969), and D'Arcy (1973) have stated that students find getting the main idea a prime problem in the comprehension of reading materials. Alexander wrote:

> Before they can interpret, analyze, synthesize, or evaluate, they must translate literally the essence or main idea of an action, statement, or written passage. (p. 299)

Subskills of main idea. Analysis of the process involved in the skill, "Determining the Main Idea," has shown that not one but several sequentially-related subskills contribute to the summary skill (Broening, 1941; Otto & Barrett, 1968; Otto & Chester, 1976; Klumb, 1976). Otto and Chester interpreted the term "main idea" as global, subsuming a number of discrete subskills. Instruction in understanding the main idea, "without the proper prerequisite skills, yields diminishing returns and is likely to be unsuccessful" (Otto & Chester, p. 117).

A sequence of four separate subskills, arranged in an empirical hierarchy according to level of difficulty, has been identified and designed to help post-elementary poor comprehenders derive meaning from passages (Klumb, et. al., 1976e). At the four subskill levels, the student is asked to identify the main idea of a given passage. At the first and second levels, the response is a general topic. At the third and fourth levels, the response is a main idea statement. The ease with which the student is able to identify the main idea of a passage (whether the response is identification of a topic or a main idea statement) is determined, in part, by the organization of the passage (Otto & Kamm, 1977; Van Blaricom & White, 1975; Sherbourne, 1977). In the four identified subskills, passage organization structures the context in which the main idea subskills are developed and assessed. Passage organization for the four main idea subskills is summarized by level of difficulty (easiest-I to most difficult-IV) in Figure 3.

FIGURE 3

MAIN IDEA SUBSKILLS

Level	Passage Organization		Subskill
I	organizer relevant details	→	topic
II	no organizer relevant details	→	topic
III	organizer relevant details irrelevant details	→	main idea statement
IV	no organizer relevant details irrelevant details	→	main idea statement

An example of a reading passage which consists of a stated passage organizer with all relevant details (Level I in Figure 3) is presented in Figure 4. The underlined sentence identifies the passage organizer of the selection.

FIGURE 4

PASSAGE WITH ORGANIZER AND RELEVANT DETAILS

> One of the most important jobs of a forest ranger is spotting fires. He also protects the trees from damage from insects and diseases. A forest ranger has many jobs. He must decide which trees need to be cut each year. He is also responsible for soil conservation and for the well-being of the animals in his area.

As shown in Figure 4, the passage includes a stated organizer which contains the topic of the selection, i.e., forest ranger's jobs. Each of the other sentences in the passage include relevant details which support the topic, i.e., spotting fires, protects trees from insect damage and diseases, decide which trees need cutting, and responsible for soil conservation and well-being of animals in his area.

An example of a reading passage which consists of all relevant details but no stated passage organizer (Level II in Figure 3) is presented in Figure 5.

FIGURE 5

PASSAGE WITHOUT ORGANIZER BUT WITH RELEVANT DETAILS

> Bert carries out the trash for his mother. He also dries the dishes for her and cleans his room. Sometimes he will make supper if his mother is late getting home from work. Bert also helps out by babysitting for his two younger brothers occasionally. Last year he helped the family save money by painting the garage himself.

The passage in Figure 5 differs from the Figure 4 passage in that no stated organizer is present which contains the topic of the selection. While there is no organizer, each of the sentences includes relevant details which support the topic of the passage, i.e., Bert's helpfulness. All the details, i.e., carries out trash, dries dishes and cleans room, makes supper sometimes, babysits occasionally, and painting the garage, support that Bert's very helpful.

An example of a reading passage which consists of a stated passage organizer with both relevant and irrelevant details (Level III in Figure 3) is presented in Figure 6. The double-underlined sentence in the selection identifies the passage organizer; the single-underlined sentences identify the relevant details.

FIGURE 6

PASSAGE WITH ORGANIZER AND RELEVANT AND IRRELEVANT DETAILS

> The coleus plant has leaves of green, yellow, orange, purple, and brown. The coleus needs a warm area and lots of water. It is a good idea to water it often. The soil should be of equal parts of loam, peat, and sand. The plants should be grown in strong indirect light. There are many things to remember about taking care of a coleus.

Like the passage in Figure 4, the Figure 6 passage includes a passage organizer, which serves as the main idea statement of the passage, i.e., "There are many things to remember about taking care of a coleus." Unlike the passages in Figures 4 and 5, this passage includes sentences which contain both relevant and irrelevant details. The relevant details, i.e., warm area and lots of water, water often, equal parts of loam, peat, and sand, and strong indirect light, provide support for the main idea statement. The first sentence of the passage provides a description about the colors of coleus leaves, but it does not provide any information about caring for coleus plants. This sentence contains irrelevant detail.

An example of a reading passage which consists of both relevant and irrelevant details but no stated passage organizer (Level IV in Figure 3) is presented in Figure 7. The underlined sentences in the selection identify relevant details.

FIGURE 7

PASSAGE WITHOUT ORGANIZER BUT WITH RELEVANT AND IRRELEVANT DETAILS

> Miss Abigail has a rocking chair that is over 150 years old. She has matching end tables that were once owned by Thomas Jefferson. The window in her hall is stained glass and came from a church that was torn down 75 years ago. Miss Abigail has a lovely collection of old glassware. Her kitchen is up-to-date, though. She likes baking and wants to have the latest equipment. She does keep an old spinning wheel in her kitchen. It is placed near the fire. On cold nights Miss Abigail sits near the fire and reads books on antiques.

The passage in Figure 7 differs from the passages in Figures 4, 5, and 6 in that it not only contains no stated organizer (main idea statement), but it also includes both relevant and irrelevant details. The relevant details in the passage, i.e., 150-year-old rocking chair, Thomas Jefferson end tables, 75-year-old stained glass window, old glassware collection, and spinning wheel, support a main idea that Miss Abigail has antiques in her house. Sentences containing irrelevant details, i.e., Miss Abigail's up-to-date kitchen, keeps the spinning wheel near the fire, and sits near the fire and reads antiques books, do not support the main idea of the passage.

As indicated in Figures 3-7, passage organization is determined by the presence or absence of a passage organizer (topic sentence) and irrelevant details. Studies have indicated that it is easier to comprehend the main idea in a passage with an organizer than in a passage without an organizer (Gagne, 1969; Gagne & Wiegand, 1970; Van Blaricom & White, 1975; Karlin, 1977). In all cases, students' comprehension on passages with organizers was significantly better than on passages without organizers. Bruning (1970) studied students' factual recall for passages with relevant details and passages with both relevant and irrelevant details. Results showed that recall was significantly better on passages with only relevant details. Bruning concluded that the main idea of a passage is obscured when details irrelevant to the main idea are included (Van Blaricom & White, 1975; Otto & Kamm, 1977).

A survey of content-area materials revealed that these materials contain passages that do not have organizers and do have irrelevant details (Van Blaricom & White, 1975; Otto & Kamm, 1977). Shepherd (1973) pointed out that frequent difficulties secondary students have in comprehending content-area materials is in noting the main idea of a passage which is not directly stated and sorting important from unimportant details. Zintz (1975) and Sherbourne (1977) added that all writers are not efficient in their writing. Many paragraphs in textbooks that students read do not include any topic sentence at all. Students have to accept paragraphs that contain details (extra sentences) that do not amplify the topic sentence for the paragraph (Zintz, 1975; Bamman, Dawson, & McGovern, 1973). In order to prepare students to deal with the realities of day-to-day reading tasks, specific skill instruction should proceed from noting directly stated topic sentences supported by all relevant details to determining main ideas not directly stated supported by irrelevant as well as relevant details (Klumb, et. al., 1976e).

An examination of several secondary level standardized reading tests indicated that a significant number of items included in the comprehension sections requires the student to derive the main idea of passages. Sixty percent (30 of 50 test items) of the Traxler High School Reading Test required that students identify the main idea of short passages. Twenty-three percent (10 of 45 items) of the California Achievement Tests (Advanced): Reading Test and 28 percent (10 of 36 items) of the Nelson-Denny Tests consisted of main idea test items. Thirty percent (12 of 40 items) of the Diagnostic Reading Tests: Comprehension Subtests consisted of test items which require students to discern the main ideas of passages. (The Comprehension Subtests of the Diagnostic Reading Tests were used to measure general reading comprehension performance of subjects in this study and are further described in the Materials section of Chapter II.) As indicated by the percentages of main idea test items, the comprehension subtests of secondary level standardized tests of reading achievement include a significant component of exercises which require students to be able to discern the main idea.

To summarize this section, historical, empirical, and consensual evidence supported the assumption that main idea is an essential skill of reading comprehension. Further evidence supported that the sequentially-related subskills of main idea selected for use in the study are identifiable, measurable, and essential to noting main ideas in content-area reading materials and standardized reading tests. The evidence has shown, then, that teaching main idea subskills to students is an essential part of reading instruction and that main idea test items significantly comprise secondary level standardized tests of reading achievement.

Measuring General Reading Comprehension

The basic underlying assumptions of this study were that sequences of specific (1) skill-based instruction in main idea subskills and (2) skill mastery testing instruction in main idea subskills would significantly improve poor comprehenders' achievement in general reading comprehension. These assumptions were basic to this study because the instructional sequences--skill-based instruction and skill mastery testing instruction--represented the experimental treatments implemented in the investigation. (Details of the two experimental treatments are presented in Chapter II.) Implicit to the experimental evaluation of teaching methods is the assumption that the passage of time will not affect the results of the two experimental treatments. A rationale for each of the stated assumptions--including empirical studies which have examined the validity of each--is provided in the following three subsections.

Effect of skill-based instruction. Consensual support exists for measuring the effect of teaching specific reading skills, such as subskills of main idea (described later in the Materials section of Chapter II), on general reading achievement, i.e., performance on standardized reading achievement tests. Though the studies that have examined the validity of skill-based instruction--not mastery of skills instruction--indicate that, thus far, there is a lack of empirical evidence to support the approach, an increasing number of skill-based reading systems are currently being implemented in elementary and secondary schools.

Otto and Kamm (1977) explain that the assumption of the skill-based Comprehension component of the Wisconsin Design is that instruction designed to develop specific skills will increase general reading comprehension achievement.

> By sharpening the specific literal comprehension skills through systematic instruction and application, students should be able to deal more effectively with the reading comprehension tasks that confront them in school and in life. If this expectation is met, then the outcomes can be evaluated with standard comprehension measures. (p. 16)

In a paper to rationalize a skill development focus in Adult Basic Education reading classes, Askov, Otto, and Fischbach (1971) wrote:

> The assumption underlying this approach is that instruction in specific skills in which the student is deficient will raise the level of his general reading achievement. (p. 48)

Johnson and Pearson (1975) described preference for evaluating skill-based instruction through the use of standardized reading measures rather than skill mastery tests:

> At this point we would prefer a standardized reading test which assesses reading achievement in the most global sense to an assessment of specific subskills. Global measures have, at the very least, the virtue of requiring that the child read in order to demonstrate achievement. Furthermore, they require that the child integrate a number of allegedly separate skills in order to perform the tasks required. This preference stands even though we are very skeptical about any standardized measure of achievement. (p. 763)

As previously stated, studies which have investigated the effects of systematic skill-based instruction on general reading achievement report few or no significantly positive results when compared with control groups or other treatments. Askov (1970) examined the effect of skill-based instruction on the vocabulary and comprehension subtest scores of standardized reading tests with primary students. Analysis of covariance results indicated that limited or no change was found in pupil reading achievement. Dickey's (1976) analysis of covariance findings showed that the Fountain Valley Teacher Support System in Reading had little or no influence on the reading progress of second and third graders, as assessed by the Cooperative Primary Reading Tests. Nimz (1974) used a three-way analysis of covariance to show the results of a study to determine the effect of using performance objectives for teaching reading comprehension skills on the reading ability of fourth and fifth grade students. Findings indicated that fourth and fifth graders receiving the performance objective treatment showed no greater gains in reading achievement than those pupils receiving the basal reading treatment.

Analysis of variance was used by Gold (1963) to examine differences between group instruction and individualized skill-based reading instruction. There was no significant difference between the groups for improvement of total reading, vocabulary, or reading comprehension.

Rossi (1971) examined the effect of skill-based instruction--*Learning Mastery System*—on global reading achievement in non-graded and traditional classrooms. Results showed that average performance for the two treatment groups using skill-based instruction in both the traditional and non-graded classrooms was greater than the performance of the control groups.

At the present, the largest number of studies examining skill-based instruction involves the relationship of students' mastery, or attainment, of selected reading skills to their level of general reading achievement. This relationship is examined as a related question in the present study. A rationale for relating skill acquisition to general reading achievement is presented in the final subsection of this review.

Despite the evidence presented which showed that the implementation of skills-centered instruction has had little or no significant effect on students' reading ability, the skill-based approach has attracted the increased interest of commercial educational publishers. In 1974 Rude examined the differences between the components and purposes of skill-based elementary school reading programs, i.e., *Croft Word Attack Inservice*, *Croft Comprehension Inservice*, the *Fountain Valley Teacher Support System*, the *Prescriptive Reading*

Inventory, Read On, and the Wisconsin Design for Reading Skill Development: Word Attack and Study Skills. Since Rude's (1974) evaluation, numerous skill-based systems have been developed for reading programs in elementary and secondary schools. Stallard (1977) recently compared the differences and similarities among fifteen commercially available skill-based reading programs to help educators who are trying to select a program to meet the needs of students in a particular school. Including the six programs previously analyzed by Rude, Stallard also examined the following: Criterion Reading, High Intensity Learning Systems--Reading, Individual Criterion-Referenced Testing Program, Individual Pupil Monitoring System, Objectives-Referenced Bank of Items and Tests, Performance Objectives and Criterion Items for Classroom, Program for Learning in Accordance with Needs (PLAN), Systematic Approach to Reading Improvement (SARI), SCORE, and SOBAR: Reading Mastery Program: An Evaluation Tool. Mather (1977) examined features of other skill-based reading programs, i.e., Spelling and Writing Patterns, Cambridge Reading Work-A-Text Series, Communication Skills Program, Controlled Reading Study Series, Timed Readings, Standard Test Lessons in Reading, and SRA Reading Laboratories. Though estimates are presently unavailable concerning the number of schools which include skill-based reading programs in their curriculums, the wide-spread development of commercially written programs may serve as an indication of elementary and secondary schools' interest in the skill-based approach. Due to this apparent interest, a reexamination of the effects of skill-based instruction on general reading achievement was warranted.

Effect of skill mastery testing. Several studies have been conducted to investigate the feasibility of using a sequence of skill mastery tests, such as that sequence described later in the Materials section of Chapter II, as a means to increase students' general achievement. That is, the skill mastery tests designed for assessing skill development in skill-based programs may be given to poor comprehenders--separate from the actual prescribed instructional materials and procedures--as a means for promoting the specific comprehension skills. This procedure, in turn, would then improve poor comprehenders' general reading comprehension performance. Testing has been used as a common method in accelerated reading courses to improve individuals' reading rates. Laycock (1955) investigated the effect of comprehension testing on reading rates of college students. Results showed that subjects increased their reading speed by as much as 40 percent.

Downing (1974) studied the effect of selected skill mastery tests administration on the acquisition of general math skills and the mastery of selected math instructional objectives. Analysis of covariance and chi square goodness fit results indicated that subjects receiving skill mastery tests mastered a significantly greater number of instructional objectives than the control subjects. No significant differences were found between the two groups on general math skills--as measured by the Comprehensive Test of Basic Skills.

Hoff (1974) compared the effect of skill mastery reading tests--Instructional Objectives Exchange (IOX) tests--on general reading comprehension and word-attack skills of fifth-grade students in a basal reader program. Gains in general reading comprehension and word-attack of 68 experimental subjects were compared with the gains of 53 control subjects, using the Stanford Diagnostic Reading Test for both pre- and posttest. The findings indicated that the use of IOX skill mastery tests as instructional (practice) material is likely to result in a more significant increase in knowledge of word attack skills by fifth-grade boys and girls than the regular basal material. However, findings did not indicate superiority of IOX materials similarly used for comprehension skills.

Assessing delayed effects. Implicit in evaluating results of experimental treatments, such as the effects of skill-based instruction and skill mastery testing on general reading comprehension performance, is the assumption that extending the time of the experiment beyond the termination of treatments and the immediate posttest period would not affect those initial results. Hovland, Lumsdaine, and Sheffield (1949) explained that delayed effects are stronger than immediate effects for general attitudes, such as achievement in general reading comprehension, but weaker for specific attitudes, such as acquisition of selected skills.

> A discredited speaker has no persuasive effect immediately, but may have a significant effect a month later, unless listeners are reminded of the source. (Hovland, Janis, & Kelley, 1953, p. 163).

Campbell and Stanley (1963) warned researchers against pinning all their experimental evaluation of teaching methods on immediate posttests or on measures given at any single point in time. They suggested the following when planning research:

> In spite of the immensely greater problems of execution (and the inconvenience to the nine-month schedule for a Ph.D. dissertation), we can but recommend that post-test periods such as one month, six months, and one year be included in research planning. (p. 31)

Spitzer (1939) compared subjects who scored in the top- versus bottom-one-third of a factual detail reading comprehension test. He found:

> . . . the curve of retention of pupils of inferior learning ability begins to level . . . seven days after learning. At the same time the curve for the pupils with superior learning ability does not begin to level until twenty-one days after the learning period. (p. 648)

Vergason (1966) and Orr (1966) examined the delayed effect of teaching materials on retention ability. Comparing students' scores on a paired-associate task, Vergason found that mentally retarded students trained with an automated procedure performed significantly better than students not receiving the treatment after a one-month interval. Orr found the favorable effects of an audio-visual instructional treatment decreased over one- and two-month extended time intervals.

Orr (1968) examined the delayed effects of performance of a treatment group of sailors, exposed to programmed instruction, versus a control group, exposed to the usual lecture method. After repeated testing at one-day, one-week, and two-week intervals, using a t-test for correlated means, Orr found that none of the differences reached statistical significance. He concluded that programmed instruction was comparable to the conventional lecture method throughout the extended time interval.

To summarize the three assumptions discussed in this section, several conclusions were drawn from the literature which related to the planning of the present study. First, there was a need for measuring the effects of skill-based comprehension instruction (main idea subskills) for poor comprehenders in terms of general reading comprehension. Second, there was need for more investigation of the effects of skill mastery testing (main idea subskill tests) on general reading comprehension of poor comprehenders. Therefore, this study focused its examination on the treatment effects of the two experimental approaches on the standardized reading comprehension test scores of poor comprehenders. Third, based on the consensual and empirical literature related to the possible effects of treatment after an extended period of time, it was clear that a delayed posttest measure of general reading comprehension ought to be administered to the subjects in the study at least one month after the initial posttesting.

Effect of mastery. The following rationale is presented to warrant the examination of skill mastery effects on achievement in general reading comprehension in the form of a series of questions related to the primary assumptions underlying the design of the study.

Consensual and empirical evidence exists for supporting the examination of the relationship of students' acquisition of specific skills to their level of general reading achievement. Askov, Otto, and Fischbach (1971) provided support for investigating this relationship.

> Teaching specific reading skills . . . may be considered a valid approach to reading instruction if students' attainment of the skills is directly related to their level of general reading achievement. (p. 48)

Johnson and Pearson (1975) explained that examination of specific skill mastery must be done in terms of a general reading measure; i.e., a standardized reading test. They stated:

> . . . (the) major validity assumption (of a skills-centered approach) is that mastering all these separate skills has something to do with reading. In short, what is at issue is whether or not mastering a specific skill improves a child's ability to read or comprehend text. (p. 761)

Askov, et. al. (1971) explored the relationship of skill mastery to general reading achievement level by comparing group word attack test scores of children in grades 1-6 with their scores on standardized reading achievement tests. The data for each age group were analyzed by multivariate analysis of variance to determine the regression of the standardized test scores on the mastery level score, i.e., the number of skills mastered at a given level. A statistically significant relationship between word attack mastery level and general reading performance was shown. The relationship was found to be positive in that as mastery of specific skills increased, so did reading performance.

Another study concerning the relationship of word attack mastery to general reading achievement was that conducted by Blohm (1976). Noting the word attack mastery levels of fourth-grade subjects along with the subjects' standardized reading achievement scores, results indicated that mastery of word attack skills is positively correlated with level of reading achievement.

Smith (1976) examined the relationship between skill mastery performance and standardized reading test performance of elementary students. Results showed significantly high correlation coefficients between skill mastery and general reading achievement.

Evaluations of skill-based reading instruction programs have been conducted to investigate student gains in general reading ability, as demonstrated both by students' mastery of the skill mastery tests used in the program and by scores on standardized reading achievement tests. Stallard (1977) summarized:

> The following reports cite evidence of gains in overall reading ability resulting from use of one or more of these (skill-based) programs, as measured by scores on standardized reading achievement tests: Aaron (1974), Horn (1974), Rosenkranz (1973), Klopp (1976), Hubbard and Sals (1975), Green and Roudabush (1975), and Cohen (1974). (p. 44)

To summarize this rationale for examining the effects of skill mastery on general reading comprehension performance, it has been shown that as mastery of specific reading skills increases so does general reading performance. Unfortunately, most of these empirical studies have been focused on word attack skills of elementary students. The need remained, therefore, to explore the effects of mastery of teaching main idea subskills and test them on general reading comprehension performances of secondary level poor comprehenders.

Summary

Certain assumptions have been made which influenced the planning of the present study. Evidence has been cited in this review which supports the assumptions summarized as follows:

1. Poor comprehenders represent a significant population (10-30 percent) of secondary school students.

2. Evidence exists to support a skills orientation to developing reading comprehension instruction.
3. Empirical as well as consensual support exists for a multi-skill theory of reading comprehension. This evidence, along with support provided by a skill orientation, serves as the raw material necessary to develop a systematic skill-based approach for teaching reading comprehension.
4. Using the raw material provided by the evidence for the two previous assumptions, a systematic approach of skill-based instruction could be developed to teach specific reading comprehension skills. That is, skill-based instruction could identify and state instructional objectives for teaching essential comprehension skills, assess individual skill development, organize specific instructional materials and procedures, and manage instructional progress.
5. Discerning the main idea is an essential reading comprehension skill of skill-based instruction which consists of four subskills. In addition, standardized tests of reading comprehension are comprised of a significant number of test items which require students to discern main ideas of passages.
6. Though previous studies have failed to substantiate conclusively that a skill-based approach is an effective method for increasing students' general reading ability,

the use of skill-based reading systems is becoming increasingly widespread in today's elementary and secondary schools. As a result, further examination of this effect of instruction was warranted. Results of studies regarding the effects of utilizing skill mastery tests to increase reading achievement show a tendency that the approach may be a viable one. To begin the examination of the two methods, the literature has supported that instruction and testing of main idea subskills would be sufficient to expect differences in results of the two approaches on general reading comprehension performance. Further evidence showed that incorporating a delayed assessment of treatment effect into the design of the study would provide a more comprehensive examination.

7. A basis for including related questions regarding the effect of mastery was that masters of specific main idea skills would show better performance on a general reading comprehension measure than nonmasters.

Hypotheses and Questions

Hypotheses

The primary purpose of the present study is to investigate the immediate and delayed effects of two experimental approaches, designed to improve reading comprehension, that were given to selected poor comprehenders. Five hypotheses are tested:

1. Subjects who are taught specific main idea subskills will score significantly higher on a posttest of general reading comprehension than will subjects who are tested on main idea subskills only and control subjects.
2. Subjects who are taught specific main idea subskills will score significantly higher on a delayed posttest of general reading comprehension, administered one month after completion of treatment, than will subjects who are tested on main idea subskills only and control subjects.
3. Skill-Based Instructional subjects' posttest and delayed posttest mean scores will not differ significantly.
4. Skill Mastery Testing subjects' posttest and delayed posttest mean scores will not differ significantly.
5. Control subjects' posttest and delayed posttest mean scores will not differ significantly.

Questions

As substantiated by previously cited research pertaining to the implementation of selected skill-based instruction and skill mastery testing, it is expected that some of the subjects in both experimental groups will demonstrate skill mastery (80 percent correct responses on each of four tests of main idea subskills) after treatment while other subjects in the two groups will not demonstrate skill mastery. Two questions are examined to determine whether or not there are differences between the general reading comprehension scores of subjects in the Skill-Based Instruction Group who demonstrate mastery of specific main idea subskills as compared to subjects who demonstrate nonmastery following the prescribed instruction.

1. Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score significantly higher on a posttest of general reading comprehension than do subjects who do not demonstrate skill mastery after receiving instruction?
2. Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score significantly higher on a delayed posttest of general reading comprehension (administered one month after completion of treatment) than do subjects who do not demonstrate skill mastery after receiving instruction?

Two further questions are generated to ascertain whether any differences exist between the general reading comprehension scores of subjects receiving only the four skill mastery tests who demonstrate mastery of specific main idea subskills as compared to subjects who demonstrate nonmastery following the prescribed treatment.

3. Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery

tests, score higher on a posttest of general reading comprehension than do subjects who do not demonstrate skill mastery after receiving only the skill mastery tests?

4. Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher on a delayed posttest of general reading comprehension (administered one month after completion of treatment) than do subjects who do not demonstrate skill mastery after receiving only the skill mastery tests?

Two final questions are investigated to determine whether or not any differences exist between the general reading comprehension scores of subjects who demonstrate mastery in the Skill-Based Instruction Group as compared to the scores of subjects who demonstrate mastery in the Skill Mastery Testing Group following the respective treatments.

5. Do subjects in the Skill-Based Instruction Group who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher on a posttest of general reading comprehension than do subjects in the Skill Mastery Testing Group who demonstrate mastery of specific main idea subskills?
6. Do subjects in the Skill-Based Instruction Group who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher

on a delayed posttest of general reading comprehension (administered one month after completion of treatment) than do subjects in the Skill Mastery Testing Group who demonstrate mastery of specific main idea subskills?

Several important limitations of the present study must be emphasized. No attempt was made to generalize the results of the study beyond the identified population of poor comprehenders to include average and good reading comprehenders; or beyond effects of main idea instruction to include other comprehension skills. Results were also not used to generalize effects of the treatments on general reading comprehension performance to include effects on vocabulary/ word attack or study skills performance. Finally, adoption of a program of skill-based instruction or skill mastery testing, at the expense of deleting existing classroom procedures for teaching reading comprehension, was not advocated.

CHAPTER II

METHOD

As stated, the purpose of the study was to examine the immediate and delayed treatment effects of teaching-and-testing, i.e., skill-based instruction, and testing-only, i.e., skill mastery testing, on poor comprehenders' general reading achievement. Chapter II of the study is discussed in five sections: Subjects, Materials, Treatments, Procedures, and Design.

Subjects

The procedure outlined below was followed for selecting the subjects in the study:

(1) December, 1976 - high school was invited to participate

(2) December, 1976 - 10th-grade English teachers were invited to participate

(3) January, 1977 - subjects were identified

A high school in central-eastern Wisconsin was invited to participate in the study. Nineteen tenth-grade English classes, a total of 550 students and 7 staff teachers, were invited to participate in the implementation of the study.

U. S. Bureau of Census statistics (1973) indicated that the community represents a middle class environment. The predominantly

Caucasion population is 35,698 and the median family income is $10,284. The labor force consists of 31.2 percent employed in manufacturing, 46.2 percent in white collar businesses, and 12 percent in government-related work. Two thousand fifty-eight of the 2,641 post-elementary students in the city are enrolled at the participating high school.

One hundred fifty-seven subjects who participated in this study were identified in the following manner:

(1) A formal letter inviting the school to participate in the study was sent to the principal in November, 1976, with carbon copies also going to the high school reading consultant and the district Director of Curriculum and Instruction. Information in the letter included: (a) a summary of the purpose of the study, (b) a projected timeline for implementing the study, (c) a statement outlining the instructional treatments in the study, and (d) a statement requesting a meeting with the principal and the reading consultant to discuss the implementation procedures in further detail. Copies of (1) the formal invitation sent to the high school and (2) the letter of acceptance are presented in Appendix H.

(2) By the end of December, 1976, and with the consent of the high school principal, each of the seven tenth grade English staff teachers at the school was personally invited by the investigator to participate in the implementation of the study. Information explaining the purpose and general details of the study was presented

to each prospective teacher.

(3) On January 12, 1977, an orientation session was conducted for the participating teachers. Part of that orientation, described further in the Procedures section, included a description for identifying the subjects. Administrator's manuals for the Design II: Comprehension Placement Test (Pilot Edition) (Klumb, et. al., 1976b) were given to the teachers to familiarize themselves with the test directions. As was the procedure for all testing sequences, the teachers administered the Placement Test to their students, and the test sheets were scored by the investigator. It was further explained that, as for all research test results, no feedback concerning subjects' scores would be available during the implementation of the study. Teachers were instructed to assume that all students in their research classrooms were included in the experiment. The rationale for following this procedure was to ensure that all students in each research classroom received the same instruction, materials, and/or tests.

(4) On and between the dates of January 24 and January 28, 1977, the Placement Test was administered by participating teachers to the students in each of their tenth-grade English classrooms. The completed test sheets for each classroom were collected and stored in separate envelopes for investigator pickup. The tests from each class were then scored by the investigator. Students who performed

below mastery criterion were identified as the subjects for data analysis in the study. Identification of the study's subjects in each participating classroom, listed by teacher and class period, is presented in Appendix B.1.

All communication with the school staff was handled via the telephone and personal conferences. Weekly on-site visits were made to the school by the investigator during the study.

Materials

Testing Instruments

Specific tests to identify poor comprehenders, assess general reading comprehension, and assess the mastery of main idea subskills in the present study are described in the following subsections.

Identifying poor comprehenders. Students' reading skill mastery in the area of comprehension was assessed in the study by the Design II: Comprehension Placement Test (Pilot Edition) (Klumb, et. al., 1976b). The Placement Test was selected to identify poor comprehenders, i.e., subjects, for this study because it is designed to determine high school students' mastery of selected reading comprehension skills. Klumb, et. al. (1976a) state:

> The comprehension portion includes passages that help to determine whether or not students have mastered the skills needed to: (1) use context clues; (2) locate and comprehend details in sentences; (3) identify the main idea of a selection; (4) find relationships and conclusions in a selection; and (5) comprehend sequence concepts. (p. 2)

The Placement Test consisted of 29 items and yielded a total comprehension score. This score was designed to be converted into a percentage score by means of a table provided in the test manual. Failure to demonstrate mastery (less than 80 percent correct) of items in the Comprehension section indicated that the student is lacking proficiency of comprehension skills (Klumb, et. al., 1976a). For the present study, raw scores (i.e., total correct responses out of 29) were used rather than percentage scores so that analyses would not be affected by distortions arising from the derivation of the percentage. A raw score of 23 or higher indicated mastery of comprehension skills. Any raw score of 22 or lower indicated nonmastery of comprehension skills on the Placement Test.

The content of the Placement Test consisted of short and long prose passages containing reading material similar to that found in high school textbooks in literature, social studies, and science. Klumb, et. al. (1976a) state:

> The short passages are used to assess context clues. Longer selections that have the necessary structure and information are used to assess details, main idea, sequence, relationships and conclusions. (p. 2)

Though the test is not timed, the estimated total time needed to complete the Comprehension section is 35 minutes. Administration of the Placement Test followed the procedures described in the test manual. The test items of the Placement Test are provided in Appendix A.

Measuring general reading comprehension. Subjects' general reading comprehension performance was assessed in the study by the General Reading and Comprehension subtests of the Diagnostic Reading Tests, Survey Section: Upper Level--Forms B and D (Triggs, et. al., 1952a). The Reading Test was selected because it was designed to measure reading comprehension skills of secondary students, and it has been found to be both valid and reliable for this purpose. Triggs, et. al. (1952a) stated that passages chosen are of sufficient length to make meaningful units and to supply sources for questions on main ideas, details, and relationships and conclusions.

The General Reading and Comprehension subtests consisted of 20 items each and yielded a combined total comprehension score. This score was designed to be converted into a scaled score and a percentile rank score by means of tables in the test manual. For this study, raw scores (i.e., total correct responses out of 40) were used rather than either the scaled or percentile scores so that analyses would not be affected by distortions arising from the derivation of the scale or percentile.

The content of the Reading Test consisted of a variety of prose passages containing several types of reading material similar to that ordinarily required in high school courses. The General Reading subtest consists of story-type material with a sixth-grade level vocabulary load. The Comprehension subtest consisted of reading material similar to that found in textbooks in literature, social studies, and science. The actual working time of each subtest was 15 minutes, and the total time for the test including distribution of test materials and giving directions took a maximum of 45 minutes (Triggs, et. al., 1952a). Administration of the Reading Test followed the procedures described in the test manual.

The norming sample for the Reading Test included over 20,000 students from grades 7 through 12 in high schools throughout the United States. The samples were well distributed geographically, ranging from the Eastern to the Far Western norm groups (Triggs, et. al., 1952b). No socioeconomic characteristics for the norming sample were provided in the manual. A strength of the norming procedure was that independent as well as public schools and rural as well as urban schools were included in the sample.

Reliability coefficients for the Reading Test were based on equivalence of two halves (even-odd) and were estimated by Kuder-Richardson formula 21. The median of reliabilities of the total comprehension score (General Reading subtest plus Comprehension subtest) was .83 (Triggs, et. al., 1952b).

Validity was claimed for the Reading Test on the basis of intercorrelations of sub- and total scores on the Survey Test (Triggs, et. al., 1952b). The difficulty and validity of items was determined by untimed tryout of the eight available forms of the Survey Test at the ninth-grade level. The average validity of the items was .44 (Triggs, et. al., 1952b). Forms B and D of the Reading Test are each provided in Appendices D.1. and D.2., respectively.

Measuring skill mastery. Subjects' reading skill mastery in discerning main ideas in selections was assessed in the study by four "Main Idea in Selections" skill mastery tests of the *Design II: Comprehension Skill Mastery Tests (Pilot Edition)* (Klumb, et. al., 1976c). The Skill Tests were selected for use in the study because each skill mastery test was designed to identify high school students' mastery or nonmastery of the objective stated for each of four reading subskills in noting main ideas in selections. Though the administration time for each test varied based on class size, reading ability of individual class members, and classroom conditions, approximate testing periods ranged from 10-15 minutes. The mastery level and subskill objective for each of the four main idea skill mastery tests in the Skill Tests is summarized in Figure 8.

FIGURE 8

MAIN IDEA SKILL MASTERY TESTS

Skill Mastery Test	Mastery Level	Objective
I. Topic with Organizer (Test 15)	80% (8 out of 10 correct responses)	Identify topic of passage which includes stated organizer and relevant details
II. Topic without Organizer (Test 16)	80%	Identify topic of passage which includes only relevant details but no stated organizer
III. Main Idea with Organizer (Test 17)	80%	Identify main idea of passage which includes stated organizer and both relevant and irrelevant details
IV. Main Idea without Organizer (Test 18)	80%	Identify main idea of passage which includes both relevant and irrelevant details but no stated organizer

Each of the four tests of the Skill Tests consisted of 10 items, yielding a raw score total ranging from 0-10. This score was designed to be converted into a percentage score by means of a table provided in the test manual. Failure to demonstrate mastery (less than 80 percent correct) of items in a skill mastery test indicated a specific reading skill in which the student was lacking proficiency (Klumb, et. al., 1976d). For the present study, raw scores for each of the four tests were used rather than percentage scores to avoid possible distortions during the analysis. In order to demonstrate mastery of the main idea skill, subjects had to show a raw score of 8 or more responses correct out of 10 for each of the four skill mastery tests of main idea subskills. Any subjects who showed 7 or fewer responses correct out of 10 on any of the four skill tests demonstrated nonmastery of the Skill Tests.

The content of the Skill Tests consisted of short prose passages containing reading material similar to that found in high school literature, social studies, and science textbooks. The appropriate reading level of the passage was sixth-grade. Though the skill mastery tests were not timed, the estimated total time needed to complete each subskill test was 10 to 15 minutes. Administration of the Skill Tests followed the procedures described in the test manual (Klumb, et. al., 1976d). The Skill Tests used in the two experimental treatments of the study are provided in Appendix C.

Instructional Materials

Specific teacher-directed and learner-focused instructional activities described below were used in the study to teach the four identified subskills of the main idea skill.

Teacher-directed activities. Eight selected activities--two per main idea subskill--from the Design II: Comprehension Teacher-Directed Activities Handbook--Main Idea in Selections (Pilot Edition) (Klumb, et. al., 1976e) made up one set of materials for use in the skill-based instructional treatment of the study. The order of the Teacher Activities was written and compiled to correspond to the order of the Skill Tests (e.g., Skill 15--Topic with Organizer of Teacher Activities matches Test 15--Topic with Organizer individual Skill Test). The Teacher Activities were selected for use in the study because the lessons included were designed to develop--in a group setting--the four specific reading comprehension subskills of main idea that the Skill Tests measure. Klumb, et. al. (1976e) stated:

> For each skill, . . . a teacher-directed activity section (is contained) that lists (1) the skill name; (2) the stated objective; (3) an interpretation of the objective, (4) suggestions for teacher-directed activities (two lesson procedures per skill), e.g., transparency and chalkboard demonstrations for topics and examples for discussion, etc.; (5) examples of skill application, e.g., word lists; and (6) references to appropriate skill tests. (p. 3)

The content of Teacher Activities consisted of prose passages containing reading material similar to that found in high school textbooks in literature, social studies, and science. Two lesson procedures were included for each Teacher Activities skill (e.g., Skill 15, Lessons I and II). Though length of each lesson varied, the approximate total time needed for the subjects to complete each activity was 15 minutes. Demonstration and discussion of the Teacher

Activities followed the procedures described in the instructor's manual (Klumb, et. al., 1976e). The Teacher Activities used in the skill-based instruction treatment group of the study are provided in Appendix E.

Learner-focused activities. The second set of instructional materials used in the study included 24 activities--six per main idea subskill--selected from the Design II: Comprehension Learner-Focused Activities--Main Idea in Selections (Pilot Edition) (Klumb, et. al., 1976e).

The order of the Learner Activities was written and compiled to correspond to the order of the Skill Tests and the Teacher Activities (e.g., Skill 15--Topic with Organizer of Learner Activities matches Teacher Activities: Skill 15 and Skill Tests: Test 15). The Learner Activities were selected for use in this study because the activities included were designed to reinforce, in an individual setting, the specific comprehension subskills of main idea taught in the Teacher Activities and measured by the Skill Tests. Each Learner Activities student sheet contained (1) a stated purpose with important subskill information to remember; (2) directions for completing exercises corresponding to Teacher Activities lessons; (3) practice exercises for skill application; and (4) instructions for checking answers (Klumb, et. al., 1976e). Answer sheet transparencies were provided to enhance speed of scoring. Though no scores were recorded, subjects were able to check their own achievement on each Learner Activities student sheet and compare and discuss their item responses with their peers.

The content of Learner Activities consisted of prose passages which contained reading material similar to that found in high school level literature, social studies, and science textbooks. Three Learner Activities student sheets were included for each lesson of a Teacher Activities lesson (e.g., Skill 15, Lesson IA, Sheet 1; Lesson IB, Sheet 2; and Lesson IC, Sheet 3). Though the working time varied for each subject, the approximate total time for all subjects to complete each Learner Activities student sheet was approximately 10 minutes. Procedures for completing each Learner Activities student sheet were described on each sheet (1976e). The Learner Activities and corresponding Answer Sheet transparency masters used in the Skill-Based Instruction treatment group are provided in Appendix F.

Treatments

The following procedure was used to randomly assign classrooms of identified subjects to a treatment group:

(1) The classrooms were listed in numerical order according to the class period the participating teachers met with each class. The teachers of the classrooms were listed in alphabetical order by their last names.

(2) A list of random numbers was used to assign each classroom a number, from one to three, to correspond with one of the three treatment groups: (a) Control, (b) Skill-Based Instruction, and (c) Skill Mastery Testing.

After administration of the Placement Test was completed to identify the subjects in each class to be included in the study, the above-stated procedure was employed to identify the treatment groups. (Computed mean responses on the Placement Test by subjects in each of the three treatment groups in the study were as follows: Skill-Based Instruction Group--15.74; Skill Mastery Testing Group--14.88; and Control Group--17.16.) Participating teachers were then informed of each of their classrooms' assignment to a randomly selected treatment group. Since all the participating teachers taught more than one of the classrooms included in the study, it was possible for each of them to have been assigned one, two, or all three of the treatment groups. Each of the treatment groups is described below. Assignment of subjects to treatments, listed by teacher and class period, is presented in Appendix B.2.

Control Group. Subjects in the Control Group classrooms were included in the study to represent the effects of regularly-planned classroom instruction--unaffected by the specially-designed materials and procedures of the other two treatments--on general reading comprehension performance. Subjects received only the content of English instruction that followed the teachers' individual planning guides. Teachers of the Control Group had no scheduled contact with the investigator until the posttest interval of the study.

Skill-Based Instruction Group. In the Skill-Based Group teachers used the Teacher Activities and Learner Activities to teach specific main idea subskills to students. Each of the Teacher Activities and Learner Activities lessons took approximately 10 minutes maximum to complete, and the total number of days to utilize the instructional materials and testing instruments was 38 days. Individual tests of the Skill Tests, designed to assess mastery of specific main idea subskills, were given all together prior to instruction, then repeated individually at the end of each instructional period. The tests were collected, unscored, at the end of each testing period by the investigator.

Skill Mastery Testing Group. In the Skill Mastery Testing Group teachers administered the same individual tests of the Skill Tests that were used in the Skill-Based Instruction treatment group and measured specific main idea skill mastery. Each test was given, pre- and post-, in a sequence parallel to the one followed with the Skill-Based Instruction Group. These tests were collected, unscored, at the end of each testing period by the investigator. Thus, the Skill Mastery Testing Group differed from the Skill-Based Instruction Group in that the Teacher Activities and Learner Activities instruction were eliminated from the skill mastery testing treatment. Between test sessions, the subjects received regularly scheduled English content instruction.

Procedures

Implementation of the study followed the schedule of dates presented below.

January 12, 1977--An orientation session was conducted for participating teachers. The orientation involved describing:

(1) purposes of the study, (2) the experimental treatments to be implemented and their appropriate instructional materials, (3) testing instruments and procedures for identifying and measuring subjects' performance, and (4) the procedure for collecting and storing subjects' test sheets for investigator scoring and analysis. Teachers were informed that all testing instruments were designed to be teacher-administered and investigator-scored. As stated earlier, the teachers were informed that subjects' test results would not be made available to teachers or subjects during the implementation of the study.

January 17, 1977--The Skill Tests, Skills 15, 16, 17, and 18, were administered to all students enrolled in the Skill-Based Instruction and Skill Mastery Testing Groups. The scores from these tests were used as the premeasure of skill mastery of each of the four selected main idea comprehension subskills.

Beginning February 21, 1977 and continuing until April 26, 1977, students in the Skill-Based Instruction Group received appropriate daily Teacher Activities and Learner Activities instruction, each of which took approximately 10 minutes to administer. A schedule, listing specific lesson activities, is presented along with the Skill Mastery Testing Group's and Control Group's activities in Appendix G.

March 3, 1977--The Skill Tests, Skill 15 were readministered to all students enrolled in the Skill-Based Instruction and Skill Mastery Testing Groups. The scores from these tests were used as post-measures of subjects' skill mastery of identifying the topic of selections with a stated organizer.

March 16, 1977--The Skill Tests, Skill 16 were readministered to all students enrolled in the Skill-Based Instruction and Skill Mastery Testing Groups. The scores from these tests were used as post-measures of subjects' skill mastery of identifying the topic of selections without a stated organizer.

March 29, 1977--The Skill Tests, Skill 17 were readministered to all students enrolled in the Skill-Based Instruction and Skill Mastery Testing Groups. The scores from these tests were used as post-measures of subjects' skill mastery of identifying the topic of selections with a stated organizer.

April 11, 1977--The Skill Tests, Skill 18 were readministered to all students enrolled in the Skill-Based Instruction and Skill Mastery Testing Groups. The scores from these tests were used as post-measures of subjects' skill mastery of identifying the main idea of selections without a stated organizer.

On and between the dates of April 12, 1977 and April 15, 1977 the Reading Tests, Form B were administered to subjects in all three treatment groups in the study. The scores from these tests were used as a post-measure of subjects' general reading comprehension achievement.

On and between the dates of May 12, 1977 and May 17, 1977 the Reading Tests, Form D were administered to subjects in all three treatment groups in the study. The scores from these tests were used as a delayed post-measure of subjects' general reading comprehension achievement.

Design

A posttest-delayed posttest control group design was employed, as illustrated in Figure 9. Subjects in each classroom, through the utilization of a random table of numbers, were assigned to one of the three treatments. Therefore, each classroom that was in the study included subjects from one of the three treatment groups.

FIGURE 9

DESIGN OF THE STUDY

TREATMENT	Skill-Based Instruction	Skill Mastery Testing	Control
ASSESSMENT (Post- and Delayed* Posttest)	57	57	43

*administered one month after completion of the treatment

Analysis of Data

Upon completion of each testing period, all tests were collected and examined by the investigator. Subjects' test sheets were pulled and sorted by treatment group. Each test was corrected and scored by the investigator.

The test data were recorded on standardized coding sheets and transferred to keypunch codes by a full-time professional employed at the Wisconsin Research and Development Center for Cognitive Learning.

Qualified, full-time Center keypunchers then transposed the coded test data to keypunch cards.

The computer program used to examine the hypotheses and questions was written by a computer programmer employed by the Center. STATJOB: NWAY1 Program, Version 10.07 (1976) statistical package was employed to analyze data pertaining to the five hypotheses and six questions in this study. The data were first analyzed to determine whether the independent variable, i.e., treatment (skill-based instruction, skill mastery testing, control) significantly affected the dependent variable, i.e., general reading comprehension performance of poor comprehenders, at two periods in time, i.e., (1) immediately following treatment and (2) one month following treatment. The data were then analyzed to determine whether or not differences existed between the general reading comprehension scores of subjects who did and did not demonstrate mastery of specific main idea subskills in each of the Skill-Based Instruction and Skill Mastery Testing Groups. The level of significance for testing the differences was established as $\underline{p}<.05$.

CHAPTER III

RESULTS AND DISCUSSION

As indicated in Chapter II, differences among the three treatment groups were examined in terms of scores on two equivalent comprehension measures, one administered immediately following completion of the treatment and the other administered one month later. The raw scores obtained from the comprehension tests were subjected to analysis of variance. Post-hoc comparisons were used to examine differences between the groups. Posttest and delayed posttest mean scores for each of the three groups were then subjected to a dependent groups t-test analysis to determine whether a significant difference existed between immediate and delayed performance. The level of significance for testing the differences was established as $p<.05$.

In addition, related questions were generated to examine the differences between subjects in each of the two experimental approaches who demonstrated mastery and those who did not demonstrate mastery. Those subjects who scored 8 or more correct responses out of 10 on each of four skill mastery tests following assigned treatment were considered to have mastered the main idea subskills. In contrast, those who scored 7 or fewer correct responses out of 10 on any one or more of the four skill mastery tests following treatment were considered not to have mastered the main idea subskills. The differences between these mastery and nonmastery subjects in the two experimental groups were examined in terms of scores on the two comprehension tests. Their scores on these comprehension tests were subjected to an independent groups t-test analysis. The level of significance for examining these differences was established as $p < .05$.

In presenting the data, each hypothesis is restated, results are presented, and discussion is given. This procedure is repeated for presenting and discussing the data relevant to the related questions. The hypotheses and questions are presented in the order in which they were stated in Chapter I.

Hypotheses

Hypothesis 1

The first hypothesis dealt with the immediate performance of subjects who were exposed to the skill-based instructional approach as compared to subjects who were exposed to skill mastery testing only and to subjects who received a control treatment.

(1) Subjects who are taught specific main idea subskills will score significantly higher on a posttest of general reading comprehension than will subjects who are tested on main idea subskills only and control subjects.

The mean scores of the three groups, presented in Table 1, were subjected to an analysis of variance. As the summary of the analysis in Table 2 indicates, the effect of the treatment was significant. The results of a post-hoc comparison between the comprehension performance of the two experimental groups, as shown in Comparison 1 of

Table 3, reveal that no significant difference existed between the two groups immediately following treatment. Post-hoc Comparison 2 of Table 3 indicates, however, that there was a significant difference between the comprehension performance of the Skill-Based Instruction Group and the Control Group.

TABLE 1

OBSERVED POSTTEST CELL MEAN SCORES OF GENERAL READING COMPREHENSION AND STANDARD DEVIATIONS

Source	n	Mean Score	Standard Deviation
Skill-Based Instruction	57	24.25	5.69
Skill Mastery Testing	57	22.91	6.43
Control	43	21.07	3.71

TABLE 2

SUMMARY OF ANALYSIS OF VARIANCE (DIFFERENCE BETWEEN TREATMENT ON SUBJECTS' POSTTEST PERFORMANCE OF GENERAL READING COMPREHENSION)

Source	df	MS	F	P
Treatment (Skill-Based Instruction and Skill Mastery Testing vs. Control)	2	123.62	4.04	<.0196
Error	154	30.63		

Finally, the results presented in Comparison 3 of Table 3 indicate that no statistically significant difference existed between the Skill Mastery Testing Group's general comprehension performance and that of the Control Group immediately following treatment.

TABLE 3

SCHEFFE' METHOD OF MULTIPLE CONTRASTS (POST-HOC COMPARISON OF TREATMENT GROUPS' POSTTEST MEAN SCORES*)

Comparison	Contrast (Confidence Interval Bounds)		Decision
	Lower Limit	Upper Limit	
1[a]	-1.2227	+3.9027	Not significant
2[b]	+.4166	+5.9434	Significant
3[c]	-.9234	+4.6034	Not significant

*$F_{2,154/\alpha=.05}$ = 3.0548; K-1=2; MS_{error}=30.6358.

[a] 1 - Skill-Based Instruction ($\bar{x}$=24.25) vs. Skill Mastery Testing ($\bar{x}$=22.91).

[b] 2 - Skill-Based Instruction ($\bar{x}$=24.25) vs. Control ($\bar{x}$=21.07).

[c] 3 - Skill Mastery Testing ($\bar{x}$=22.91) vs. Control ($\bar{x}$=21.07).

As the results in Comparison 1 of Table 3 indicate, there is no clear finding that the skill-based instructional approach is superior immediately following treatment to the skill mastery testing approach for improving general reading achievement of poor comprehenders. These results are similar to those reported by Gold (1963) and Nimz

(1974), who found that a skill-based approach to teaching reading comprehension was not superior, immediately following treatment, to alternative experimental treatments (e.g., basal reader approach, sustained silent reading).

Results of the comparison reported in Table 3, however, indicate that the Skill-Based Instruction Group performed significantly better immediately following treatment on the comprehension test than did the Control Group. These results indicate that teaching main idea subskills, organized according to the guidelines of the skill-based instructional approach, is a superior method for facilitating reading comprehension of poor readers immediately following treatment to the control method. These findings are consistent with those of Askov, Otto, and Fischbach (1971) and Rossi (1971) who determined that a sequence of skill-based instruction has a facilitative effect on general reading achievement.

The results presented in Comparison 3 of Table 3 suggest that a procedure which entails administering specific skill mastery tests of main idea subskills does not facilitate poor comprehenders' general reading comprehension immediately following treatment. These results are consistent with those reported by Downing (1974) and Hoff (1974), who found that the use of skill mastery tests alone to substitute for other approaches to reading comprehension instruction (e.g., programmed instruction, basal instruction) does not facilitate comprehension immediately following treatment.

Though the results presented indicate that the subjects in the Skill-Based Instruction Group scored significantly higher on the posttest of general reading comprehension than did the subjects in the Control Group, no significant difference was found between the scores of the Skill-Based Instruction Group and the scores of the Skill Mastery Testing Group. Therefore, hypothesis one is rejected.

Hypothesis 2

The second hypothesis dealt with the delayed performance of poor comprehenders who were exposed to the skill-based instructional approach as compared to those who were exposed to skill mastery testing and control treatment.

> (2) Subjects who are taught specific main idea subskills will score significantly higher on a delayed posttest of general reading comprehension, administered one month after completion of treatment, than will subjects who are tested on main idea subskills only and control subjects.

The treatment groups' delayed posttest mean scores, presented in Table 4, were subjected to an analysis of variance. The summary of the analysis presented in Table 5 reveals that there was a statistically significant treatment effect after a delay of one month.

The post-hoc analysis presented in Table 5 indicates that significant differences existed in comparisons between and among each of the three treatment groups. The Skill-Based Instruction Group scored significantly higher than the Skill Mastery Testing Group (Comparison 1); the Skill-Based Instruction Group also scored significantly higher than the Control Group (Comparison 2); and the Skill Mastery Testing Group scored significantly higher than the Control Group (Comparison 3).

TABLE 4

OBSERVED DELAYED POSTTEST CELL MEAN SCORES OF GENERAL READING COMPREHENSION AND STANDARD DEVIATIONS

Source	n	Mean Score	Standard Deviation
Skill-Based Instruction	57	25.42	4.64
Skill Mastery Testing	57	21.16	6.87
Control	43	18.37	4.17

TABLE 5

SUMMARY OF ANALYSIS OF VARIANCE (DIFFERENCE BETWEEN TREATMENT ON SUBJECTS' DELAYED POSTTEST PERFORMANCE OF GENERAL READING COMPREHENSION)

Source	df	MS	F	P
Treatment (Skill-Based Instruction and Skill Mastery Testing vs. Control)	2	636.48	21.39	<.0001
Error	154	29.75		

TABLE 6

SCHEFFE' METHOD OF MULTIPLE CONTRASTS (POST-HOC COMPARISON OF TREATMENT GROUPS' DELAYED POSTTEST MEAN SCORES*)

Comparison	Contrast (Confidence Interval Bounds)		Decision
	Lower Limit	Upper Limit	
1[a]	+1.7346	+6.7854	Significant
2[b]	+4.3268	+9.7732	Significant
3[c]	+.0668	+5.5132	Significant

$^{*}F_{2,154/\alpha=.05}$ = 3.0458; K-1=2; MS_{error}=29.7501.

[a] 1 - Skill-Based Instruction ($\bar{x}$=25.42) vs. Skill Mastery Testing ($\bar{x}$=21.16).

[b] 2 - Skill-Based Instruction ($\bar{x}$=25.42) vs. Control ($\bar{x}$=18.37).

[c] 3 - Skill Mastery Testing ($\bar{x}$=21.16) vs. Control ($\bar{x}$=18.37).

The data in Comparisons 1 and 2 of Table 6 show that subjects who received instruction of main idea subskills organized according to the skill-based instructional approach performed better on the delayed comprehension test than those subjects who did not receive such instruction. If the nonsignificance found between the comprehension scores of the two experimental groups immediately following treatment may have been due to Hawthorne effect, the results of the delayed test indicate that its influence was not a lasting one. It would seem, then, that on the basis of the delayed results, the skill-based instructional approach was shown to be overall superior to the other two approaches for improving general reading comprehension. These results support the theory provided by Askov, Otto, and Fischbach (1971), Athey (1977), Otto and Chester (1976), Otto and Kamm (1977), Klumb and Otto (1976), and Samuels (1976), that implementation of specifically prescribed skill instruction will increase students' general reading achievement. Further, the results are consistent with the contention made by Campbell and Stanley (1963), Hovland, Janis, and Kelley (1953), and Hovland, Lumsdaine, and Sheffield (1949) that the repeating of experimental evaluation offers the researcher a more conclusive picture of the effects of treatment.

The results of the data in Comparison 3 of Table 6 also suggest that, overall, the skill mastery testing approach is superior to the control method. These results are consistent with those of Laycock (1955) who ascertained that testing may be used as a means for improving readers' comprehension. On the basis of the data presented in this section, then, hypothesis two is accepted.

Hypotheses 3, 4, and 5

The differences between the immediate and delayed comprehension performance of the subjects in each of the three treatment groups were examined through the following hypotheses:

(3) Skill-Based Instructional subjects' posttest and delayed posttest mean scores will not differ significantly.

(4) Skill Mastery Testing subjects' posttest and delayed posttest mean scores will not differ significantly.

(5) Control subjects' posttest and delayed posttest mean scores will not differ significantly.

Since hypotheses three, four, and five dealt with the difference between the subjects' immediate and delayed comprehension scores, the three are considered together. The summary of dependent groups t-test analyses in Table 8 shows that no significant difference existed between the immediate and delayed performance of the Skill-Based Instruction group. Further results summarized in Table 8, however, indicate that the difference between the immediate and delayed performance of both the Skill Mastery Testing and Control Groups was statistically significant, with both groups' scores deteriorating. The relative change in the mean scores of the three groups, as presented in Table 7, is illustrated in Figure 10.

TABLE 7

OBSERVED CELL MEAN SCORES AND STANDARD DEVIATIONS OF TREATMENT GROUPS' GENERAL READING COMPREHENSION

Source	n	Posttest Mean Score	Posttest Standard Deviation	Delayed Posttest Mean Score	Delayed Posttest Standard Deviation
Skill-Based Instruction	57	24.25	5.69	25.42	4.64
Skill Mastery Testing	57	22.91	6.43	21.16	6.87
Control	43	21.07	3.71	18.37	4.17

FIGURE 10

MEANS OF TREATMENT GROUPS' GENERAL READING COMPREHENSION SCORES

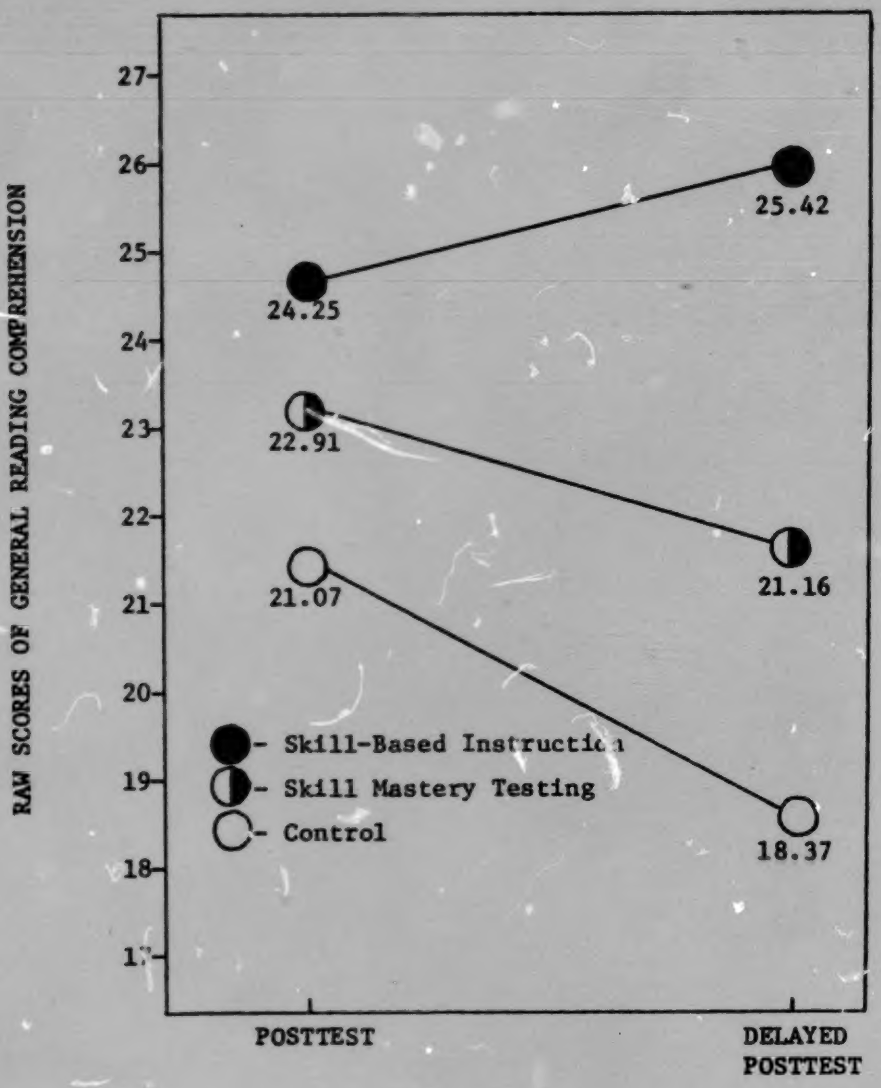

TABLE 8

SUMMARY OF DEPENDENT GROUPS T-TEST ANALYSES (DIFFERENCES BETWEEN POSTTEST AND DELAYED POSTTEST MEAN SCORES OF SUBJECTS IN THE THREE TREATMENT GROUPS)

H_o	Treatment Group	n	df	t	P
3	Skill-Based Instruction	57	56	1.769	<.0822
4	Skill Mastery Testing	57	56	3.085	<.0031
5	Control	43	42	4.520	<.0002

The results of the analyses suggest that the comprehension performance of poor comprehenders who are taught main idea subskills will not deteriorate over a one-month interval following completion of the treatment. It would seem, rather, that the skill-based instructional approach, as employed in the present study, has a sustaining overall facilitative effect on poor comprehenders' general understanding of reading material.

Further results presented also suggest that the general reading comprehension of poor comprehenders who receive either skill mastery testing of main idea subskills or a control method will not sustain over a one-month period, but, rather, deteriorate. It appears, then, that the skill mastery testing approach has a depreciating overall effect on poor comprehenders' understanding of reading material. A similar conclusion may be drawn for the overall effect of a control treatment.

As illustrated in Figure 10, the deteriorating effect evidenced between the post- and delayed posttest performance of the Skill Mastery Testing Group paralleled the deteriorating effect evidenced between the post- and delayed posttest performance of the Control Group. However, Figure 10 also shows that the sustaining effect evidenced between the performances of the Skill-Based Instruction Group is contradictory to the effects evidenced between the performances of the other two groups. To investigate the contradiction between the performances of the Skill-Based Instruction and Skill Mastery Testing Groups, an interaction between the two treatments and time of testing was further examined by employing a post-hoc repeated measures analysis of variance. As shown in Table 9, the results of the analysis indicate that the interaction was significant. The significance of the interaction appears to be attributable to the combination of the specific instruction and testing given to the Skill-Based Instruction Group as

TABLE 9

REPEATED MEASURES ANALYSIS OF VARIANCE (POST-HOC ANALYSIS OF INTERACTION BETWEEN TREATMENT* AND TIME** OF TESTING)

Source	df	MS	F	P
Treatment Time	1	61.160	11.226	<.001
Error	112	5.448		

*Treatment refers to Skill-Based Instruction and Skill Mastery Testing.

**Time refers to Posttest and Delayed Posttest Assessment.

opposed to only the testing given to the Skill Mastery Testing Group.

On the basis of the data presented in this section, hypothesis three is accepted; hypothesis four is rejected; and hypothesis five is rejected.

Questions

Six questions were generated to examine the effects of mastery on the comprehension performance of subjects in the Skill-Based Instruction and Skill Mastery Testing Groups. The first and second questions examined the differences between the immediate and delayed performance of the mastery and nonmastery subjects in the Skill-Based Instruction Group. Questions three and four examined the differences between the immediate and delayed performance of the mastery and nonmastery subjects in the Skill Mastery Testing Group. Finally, the fifth and sixth questions considered the differences between the immediate and delayed performance of the subjects who demonstrated mastery in the two experimental groups.

Questions 1 and 2

Pertaining to the subjects included in the Skill-Based Instruction Group, questions one and two dealt with the performance of the subjects who demonstrated mastery of main idea subskills as compared to the subjects who did not demonstrate mastery of main idea subskills.

(1) Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score significantly higher on a posttest of

general reading comprehension than do subjects who do not demonstrate skill mastery after receiving instruction?

(2) Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score significantly higher on a delayed posttest of general reading comprehension (administered one month after completion of treatment) than do subjects who do not demonstrate skill mastery after receiving instruction?

Questions one and two are considered together because they both referred to the comparison between the general comprehension performance of the subjects in the Skill-Based Instruction Group. The posttest mean scores presented in Table 10 were subjected to an independent groups t-test analysis. As the summary of results in Table 11 indicates, the difference between the performance of subjects who did and did not demonstrate mastery immediately following treatment was nonsignificant. The delayed posttest means were then subjected to an additional analysis. The summary of results in Table

TABLE 10

OBSERVED CELL MEAN SCORES AND STANDARD DEVIATIONS OF MASTERY AND NONMASTERY SUBJECTS IN THE SKILL-BASED INSTRUCTION GROUP

		Posttest		Delayed Posttest	
Source	n	Mean Score	Standard Deviation	Mean Score	Standard Deviation
Mastery Subjects	44	24.86	5.53	25.93	4.64
Nonmastery Subjects	13	22.15	5.94	23.69	4.38

TABLE 11

SUMMARY OF INDEPENDENT GROUPS T-TEST ANALYSIS (DIFFERENCE BETWEEN POSTTEST MEAN SCORES OF MASTERY AND NONMASTERY SUBJECTS IN THE SKILL-BASED INSTRUCTION GROUP)

Source	df	t	P
Mastery Subjects vs. Nonmastery Subjects	55	1.524	<.133

TABLE 12

SUMMARY OF INDEPENDENT GROUPS T-TEST ANALYSIS (DIFFERENCE BETWEEN DELAYED POSTTEST MEAN SCORES OF MASTERY AND NONMASTERY SUBJECTS IN THE SKILL-BASED INSTRUCTION GROUP)

Source	df	5	P
Mastery Subjects vs. Nonmastery Subjects	25	1.548	<.127

12 reveals that there was again no significant difference between the comprehension performance of masters and nonmasters one month following completion of the experiment.

As the data indicate, no significant differences in general reading comprehension existed between the mastery and nonmastery subjects in the Skill-Based Instruction Group. An explanation for the nonsignificance may be that the subjects identified as having or not having demonstrated mastery after treatment were more alike than were different. Table 13 shows that forty-four (78 percent) of the fifty-seven subjects in the group demonstrated mastery of the four main idea subskills. In addition, seven (54 percent) of the thirteen subjects in the group who demonstrated nonmastery did, in fact, master three of the four subskills taught. Mastery of at least three subskills accounted for fifty-one (90 percent) of the total group.

TABLE 13

FREQUENCY OF SUBJECTS WHO DEMONSTRATED MASTERY AND NONMASTERY OF MAIN IDEA SUBSKILLS IN THE SKILL-BASED INSTRUCTION GROUP

	Mastery Subjects	Nonmastery Subjects			
	Mastered All 4 Subskills	Mastered 3 Subskills	Mastered 2 Subskills	Mastered 1 Subskills	Mastered 0 Subskills
COUNT	44	7	2	2	2

It would seem, then, that there was not a large enough difference between the mastery and nonmastery subjects in the Skill-Based Instruction Group to affect comprehension performance.

In response to questions one and two, the data presented in this section revealed that the subjects who demonstrated mastery of main idea subskills after instruction did not score significantly higher on either the posttest or delayed posttest of general comprehension than did the subjects in the group who did not demonstrate mastery of main idea subskills.

Questions 3 and 4

The third and fourth questions dealt with the performance of subjects who demonstrated mastery of skill mastery testing as compared to the subjects who did not demonstrate mastery of skill mastery testing.

(3) Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher on a posttest of general reading comprehension than do subjects who do not demonstrate skill mastery after receiving only the skill mastery tests?

(4) Do subjects who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher on a delayed posttest of general reading comprehension (administered one month after completion of treatment) than do subjects who do not demonstrate skill mastery after receiving only the skill mastery tests?

Since questions three and four analyzed the immediate and delayed performance of subjects who did and did not demontrate mastery of main idea subskills in the Skill Mastery Testing Group, the two questions are considered together. As the summaries of results in Tables 15 and

TABLE 14

OBSERVED CELL MEAN SCORES AND STANDARD DEVIATIONS OF MASTERY AND NONMASTERY SUBJECTS IN THE SKILL MASTERY TESTING GROUP

		Posttest		Delayed Posttest	
Source	n	Mean Score	Standard Deviation	Mean Score	Standard Deviation
Mastery Subjects	15	24.48	5.87	23.55	5.85
Nonmastery Subjects	42	18.53	6.04	14.47	4.87

16 indicate, the differences between the immediate and delayed performance of the mastery and nonmastery subjects were significant.

TABLE 15

SUMMARY OF INDEPENDENT GROUPS T-TEST ANALYSIS (DIFFERENCE BETWEEN POSTTEST MEAN SCORES OF MASTERY AND NONMASTERY SUBJECTS IN THE SKILL MASTERY TESTING GROUP)

Source	df	t	P
Mastery Subjects vs. Nonmastery Subjects	55	3.34	<.001

TABLE 16

SUMMARY OF INDEPENDENT GROUPS T-TEST ANALYSIS (DIFFERENCE BETWEEN DELAYED POSTTEST MEAN SCORES OF MASTERY AND NONMASTERY SUBJECTS IN THE SKILL MASTERY TESTING GROUP)

Source	df	t	P
Mastery Subjects vs. Nonmastery Subjects	55	5.38	<.0001

The results indicate that the subjects who mastered main idea subskills after treatment performed better than the subjects who did not master the subskills on both comprehension tests. It appears, then, that acquisition of main idea subskills promotes immediate and overall improved general reading comprehension. These results are consistent with those reported by Askov, Otto, and Fischbach (1971), Blohm (1976), and Smith (1976), who found that a positive correlation exists between masters of reading skills and superior general reading achievement.

As shown in Table 17, only fifteen (26 percent) of the Skill Mastery Testing Group demonstrated mastery of the four main idea subskills after testing. These differed from the forty-four (78 percent) masters in the Skill-Based Instruction Group. In contrast to the six (11 percent) nonmasters identified in the Skill-Based Instruction Group who mastered less than three subskills, twenty-nine (75 percent) of the nonmasters identified in the Skill Mastery Testing Group mastered no more than two main idea subskills. These statistics seem to indicate that the mastery subjects in the Skill Mastery Testing Group were different from the nonmastery subjects. That there were few identified mastery subjects also suggests that mastery of main idea subskills is not likely to be attained through testing only.

TABLE 17

FREQUENCY OF SUBJECTS WHO DEMONSTRATED MASTERY AND NONMASTERY OF MAIN IDEA SUBSKILLS IN THE SKILL MASTERY TESTING GROUP

	Mastery Subjects	Nonmastery Subjects			
	Mastered All 4 Subskills	Mastered 3 Subskills	Mastered 2 Subskills	Mastered 1 Subskills	Mastered 0 Subskills
COUNT	15	9	18	11	4

On the basis of the data presented in this section, the response to the third and fourth questions was that subjects who demonstrated mastery of main idea subskills in the Skill Mastery Testing Group scored significantly higher on both the posttest and delayed posttest of general comprehension than did the subjects in the Skill Mastery Testing Group who demonstrated nonmastery.

Questions 5 and 6

Related to the subjects in the two experimental groups, the fifth and sixth questions examined the performance of subjects who demonstrated mastery in the Skill-Based Instruction Group as compared to the subjects who demonstrated mastery in the Skill Mastery Testing Group.

(5) Do subjects in the Skill-Based Instruction Group who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher on a posttest of general reading comprehension than do subjects in the Skill Mastery Testing Group who demonstrate mastery of specific main idea subskills?

(6) Do subjects in the Skill-Based Instruction Group who demonstrate mastery of specific main idea subskills, as measured by four skill mastery tests, score higher on a delayed posttest of general reading comprehension (administered one month after completion of treatment) than do subjects in the Skill Mastery Testing Group who demonstrate mastery of specific main idea subskills?

Since both questions dealt with the comprehension performance of subjects who demonstrated mastery of main idea subskills in the two experimental groups, questions five and six are considered together. The summary of the independent groups t-test analysis in Table 19 indicates that no significant difference existed between the performance of the mastery subjects in the Skill-Based Instruction Group and the mastery subjects in the Skill Mastery Testing Group immediately following treatment. The summary of results in Table 20, however, shows that there was a significant difference between the mastery subjects in the two groups after a one-month delay.

TABLE 18

OBSERVED CELL MEAN SCORES AND STANDARD DEVIATIONS OF MASTERY SUBJECTS IN THE SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING GROUPS

		Posttest		Delayed Posttest	
Treatment Group	n	Mean Score	Standard Deviation	Mean Score	Standard Deviation
Skill-Based Instruction	44	24.86	5.53	25.93	4.62
Skill Mastery Testing	15	24.48	5.87	23.55	5.85

TABLE 19

SUMMARY OF INDEPENDENT GROUPS T-TEST ANALYSIS (DIFFERENCE BETWEEN POSTTEST MEAN SCORES OF MASTERY SUBJECTS IN THE SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING GROUPS)

Source	df	t	P
Skill-Based Instruction vs. Skill Mastery Testing	57	.309	<.754

TABLE 20

SUMMARY OF INDEPENDENT GROUPS T-TEST ANALYSIS (DIFFERENCE BETWEEN DELAYED POSTTEST MEAN SCORES OF MASTERY SUBJECTS IN THE SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING GROUPS)

Source	df	t	P
Skill-Based Instruction vs. Skill Mastery Testing	57	2.096	<.039

As the analyses in Tables 18 and 19 show, the difference between the comprehension performance of the mastery subjects in the two experimental groups immediately following the given treatments was negligible. It would seem that immediately following treatment, there is little or no difference between mastery of specific main idea subskills via the skill-based instructional approach and mastery of the subskills via the skill mastery testing approach for facilitating reading comprehension.

Further results presented in Tables 18 and 20 indicate that the comprehension performance of the Skill-Based Instruction mastery subjects was significantly better after a one-month delay than was the comprehension performance of the Skill Mastery Testing mastery subjects. That the performance of the Skill-Based Instruction mastery subjects remained stable over the one-month interval, while the performance of the Skill Mastery Testing mastery subjects deteriorated, suggests that mastery of main idea instruction and testing is superior to testing only.

Based on the results of the analyses in this section, examination of question five revealed that subjects who demonstrated mastery of main idea subskills in the Skill-Based Instruction Group did not score significantly higher on the posttest of general comprehension than did those subjects who demonstrated mastery of main idea subskills in the Skill Mastery Testing Group. Examination of question six revealed that the Skill-Based Instruction mastery subjects did score significantly higher on the delayed posttest of general comprehension than did the Skill Mastery Testing mastery subjects.

Conclusions and suggestions derived from the results presented in this chapter are discussed in Chapter IV.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND SUGGESTIONS FOR PRACTICE AND RESEARCH

Summary

Purpose

The purpose of this study was to examine the effects of teaching-and-testing and testing-only four selected main idea subskills on general reading comprehension. Two general questions guided the planning and implementation of the study. First, will teaching-and-testing and testing-only four main idea subskills to poor comprehenders have a measurable positive effect on their general reading comprehension? That is, will students who are taught and tested on the specific subskills perform better on immediate and delayed general comprehension tests than will students who are not taught and tested? Second, will the general reading comprehension of students who demonstrate mastery of the specific subskills perform better on immediate and delayed general comprehension tests than will those who do not demonstrate mastery?

Rationale

Differences exist between and among theory and empirical evidence as to whether or not teaching-and-testing specific subskills will have a measurable positive effect on general reading achievement. Athey (1977), Chester (1971), Klumb and Otto (1976), Otto (1977), Otto and Chester (1976), Otto and Kamm (1977), and Samuels (1976) provided theoretical support for teaching subskills while the results of studies conducted by Askov, Otto, and Fischbach (1971) and Rossi (1971) provided empirical evidence that teaching specific subskills positively affects general reading achievement. A study reported by Laycock (1955) indicated that testing-only subskills also improves general reading performance. In contrast, the results of studies conducted by Askov (1970), Dickey (1976), Gold (1963), and Nimz (1974) provided evidence that teaching subskills does not positively affect general reading achievement. Downing (1974) and Hoff (1974) reported results which indicated that testing-only subskills does not improve general performance.

With regard to the effect of mastery of subskills, studies conducted by Askov, Otto, and Fischbach (1971), Blohm (1976), Klopp (1976), and Smith (1976) have indicated that demonstrating mastery of specific subskills is positively correlated with improved general reading performance. Those results, however, were in reference to demonstrating mastery of word attack, not comprehension, subskills at the elementary, not secondary, level. Despite these reported differences, Mather (1977), Rude (1974), and Stallard (1977) have indicated that increased numbers of both elementary and secondary schools are incorporating programs into their curriculums which are specifically designed to teach-and-test reading subskills. Due to the apparent differences which exist regarding teaching-and-testing specific subskills, and due to the increased interest shown by schools, a further examination of teaching-and-testing reading subskills seemed warranted.

Method

Five hundred fifty tenth grade students were randomly assigned to three treatments in nineteen English classrooms in a central-eastern Wisconsin high school. Although all 550 students in the 19 classrooms received one of the assigned treatments, 157 students were identified as the subjects for the study, with approximately one-third of them included in each of the three treatment groups. The Instruction Group was taught-and-tested for mastery of the four main idea subskills. The four subskills selected were topic with organizer, topic without organizer, main idea with organizer, and main idea without organizer. The Testing Group received only the mastery tests for the four subskills at the same time and in the same order that the Instruction Group received them. The Control Group received no specific treatment during the experiment. The experiment was conducted over an eight-week period and the groups' general reading comprehension performance was assessed immediately following the experiment and again one month later.

The Design II: Comprehension Test (1976b) was used to identify the subjects for the study. The students in the Instruction Group received 8 specific teacher-directed activities (2 per main idea subskill) and 24 learner-focused activities (6 per subskill) taken from the Design II: Comprehension Teachers Handbook (1976c). The students included in both the Instruction Group and the Testing Group received four specific tests of main idea subskills taken from the Design II: Comprehension Skill Mastery Tests (1976c). The immediate and delayed general comprehension performance of the three groups was measured by Forms B and D of the Diagnostic Reading Tests: Survey Section, Comprehension Subtests (1952a).

In response to the first question regarding the effects of teaching-and-testing and testing-only main idea subskills, analyses of variance and post-hoc comparisons were computed to determine differences in the immediate and delayed general comprehension scores of subjects in the three groups. Dependent groups t-tests of significance were also computed to determine differences between the immediate and delayed comprehension scores of each group. In response to the second question regarding the effects of mastery, independent groups t-tests of significance were computed to determine differences in the immediate and delayed general comprehension scores of subjects in the two experimental groups who did and did not demonstrate mastery of the four main idea subskills.

Results

Related to the first question, immediately following the treatment, the comprehension scores of the Instruction Group were (1) significantly higher than were the scores of the Control Group but (2) not significantly higher than were the scores of the Testing Group. Also, the comprehension scores of the Testing Group were not significantly higher than were the scores of the Control Group. These immediate results were consistent with those reported by Askov, Otto, and Fischbach (1971) and Rossi (1971), who determined that teaching-and-testing reading subskills has a facilitative effect on reading achievement. The results were also consistent with those reported by Gold (1963) and Nimz (1974), who found that teaching-and-testing comprehension subskills was not superior, immediately following treatment, to alternative treatments. Finally, the results also supported the findings of Downing (1974) and Hoff (1974), who determined that testing-only subskills does not improve reading achievement immediately following treatment.

One month following the treatment, the comprehension scores of the Instruction Group were (1) significantly higher than were the scores of the Control Group and (2) significantly higher than were the scores of the Testing Group. In addition, the scores of the Testing Group were significantly higher than were the scores of the Control Group. These delayed results support the theory provided by Askov, Otto, and Fischbach (1971), Athey (1977), Chester (1976), Klumb and Otto (1976), Otto and Chester (1976), Otto and Kamm (1977), and Samuels (1976), that teaching specific reading subskills will have a measurable positive effect on general reading achievement.

Comparison between the immediate and delayed comprehension scores of each group showed that the scores of the Instruction Group did not change significantly over the one-month delay, while the scores of both the Testing Group and the Control Group dropped significantly. These findings suggest that if the nonsignificance shown between the performance of the two experimental groups may have been due to a

Hawthorne Effect, the results of that influence were not a lasting one.

Related to the second question, immediately following treatment and again after one month, the comprehension scores of the subjects who demonstrated mastery in the Instruction Group were not significantly higher than were the scores of the subjects who did not demonstrate mastery. In contrast, both immediately following treatment and after one month, the comprehension scores of the subjects who demonstrated mastery in the Testing Group were significantly higher than were the scores of those subjects who did not demonstrate mastery. The results indicate that the nonsignificance that was shown in the Instruction Group and the significance that was shown in the Testing Group may be due to opposing definitions of what constitutes mastery. Almost all of the Instruction Group demonstrated mastery of three of the four main idea subskills that were taught-and-tested while most of the Testing Group demonstrated mastery of fewer than three subskills that were tested-only. The suggestion is that the subjects who demonstrated mastery or nonmastery in the Instruction Group were more alike than different, while the opposite case existed in the Testing Group. The results in the Testing Group are consistent with those reported by Askov, Otto, and Fischbach (1971), Blohm (1976), Klopp (1976), and Smith (1976), who found that demonstrating mastery of subskills is positively correlated with improved reading achievement.

A comparison made between the scores of the mastery subjects in the two experimental groups indicated that, immediately following treatment, the comprehension scores of the subjects who demonstrated mastery in the Instruction Group were not significantly higher than were the scores of the subjects who demonstrated mastery in the Testing Group. After one month, however, the scores of the subjects who demonstrated mastery in the Instruction Group were significantly higher than were the scores of the subjects who demonstrated mastery in the Testing Group. That performance of the Instruction Group mastery subjects remained stable over the one-month delay, while the performance of the Testing Group mastery subjects deteriorated, suggests that demonstrating mastery of teaching-and-testing main idea subskills is more effective than is testing-only.

Conclusions

The following conclusions appear to be tenable.

Results of the study suggest that teaching-and-testing main idea subskills enhances comprehension performance, but the teaching-and-testing group did not differ from the testing-only group on a general comprehension test administered immediately upon completion of the experimental treatments.

After one month the three experimental groups differed from each other. The most substantial difference was between the taught-and-tested group and the untreated control group. The conclusion, then, is that a combination of teaching-and-testing main idea subskills does result in a sustaining positive effect on general reading comprehension.

The results related to the ancillary questions suggest that, for immediate purposes, it makes no difference in general comprehension performance whether or not subjects demonstrate mastery after instruction and testing or after testing only. One month later, though, there is a difference. The suggestion is that the teaching-and-testing mastery subjects retain their improved performance while the testing-only mastery subjects do not. Acknowledging that a universally-accepted level of mastery is not known, demonstrating mastery through teaching-and-testing is better overall than demonstrating mastery through testing-only.

Suggestions for Practice and Research

Suggestions and Limitations Related to Classroom Practice

Suggestions. Several suggestions for practice in the classroom can be made on the basis of the conclusions of the study.

Teachers who take the time to explicitly teach the four main idea subskills to students who are poor comprehenders can expect a salutary effect on those students' comprehension of general reading material. Further, the teachers can expect that the effect of such instruction will be of sustaining value. Teachers may also use only the four subskill tests as a means of providing individual or group review for students who are either borderline poor comprehenders or who have already received the selected explicit instruction at an earlier date. Finally, teachers who provide explicit instruction such that their students demonstrate a level of mastery of main idea subskills can expect that the effect on those students' general comprehension performance will be a substantially positive one.

Limitations. Of course, these suggestions are subject to several limitations. Since the present study only examined the effect of teaching-and-testing as compared to testing-only, no conclusion could be drawn as to whether or not just teaching the main idea subskills had a greater effect on comprehension performance than did just testing the subskills. The results of the treatments in this study reflected the comprehension performance of only those students who were poor comprehenders; no data were examined to determine whether or not the same treatment results would occur for students who were not poor comprehenders. The effects of either teaching-and-testing or testing-only the main idea subskills in the present study cannot be generalized to predict the effects of teaching-and-testing or testing-only other comprehension subskills on students' general comprehension performance. Further, the results of the treatments employed in this study cannot be used to predict students' performance in either vocabulary development or study skill proficiency. Finally, a universally-accepted definition of what constitutes mastery is not presently available. As in the present study, does scoring 80 percent or better on three of the four subskill tests more accurately define mastery of the main idea skill than scoring 80 percent or better on all four of the subtests? These limitations pose questions which remain to be answered and, as a result, provide suggestions for further research.

Suggestions Related to Further Research

On the basis of the findings and limitations of the present study, and as a result of several related questions which became evident in ending the study, a number of suggestions for future research can be made.

1. While the subjects who were taught-and-tested main idea subskills performed overall significantly better than did those who were not taught-and-tested, further investigation should be conducted to determine if differences exist between and among the general comprehension scores of subjects who are (1) taught-only main idea subskills, (2) tested-only, and (3) taught-and-tested.
2. It should also be determined whether or not the subjects who were taught main idea subskills performed better on the narrative (story-type) test items or on the exposition (textbook-type) test items of the Diagnostic Reading Tests. Since the explicit instruction given was comprised solely of expository reading material, it should appear that the subjects would perform better on the expository test items than on the narrative items.
3. It should also be determined whether or not receiving explicit main idea instruction as outlined in the present study improves performance on other comprehension abilities, e.g., noting details, drawing conclusions, identifying sequence, as assessed by those identified test items on the Diagnostic Reading Tests.

4. It also should be determined whether or not the number and arrangement of the four main idea subskills (topic with organizer; topic without organizer; main idea with organizer; and main idea without organizer) which were used in the two experimental treatments significantly affected comprehension. For instance, it might be found that only two of the four subskills listed above, such as main idea with organizer and topic without organizer (in that arrangement), were necessary to improve poor comprehenders' performance.
5. It should also be determined whether or not the use of only the teacher-directed activities, or only the learner-focused activities, or a combination of the two activities significantly affects the performance of the subjects who are taught the main idea subskills. For instance, it might be better if the subjects received only the learner-focused activities.
6. It should also be determined whether or not a different combination of comprehension subskills, such as noting details, identifying sequence, drawing conclusions, which are randomly selected but taught in the same procedure as in the present study could be used to produce the same results.
7. It should also be determined whether or not subjects who are taught all the essential comprehension skills, such as those identified by the Design II: Comprehension, will

perform better on a general reading comprehension test, i.e., the Diagnostic Reading Tests, Comprehension Subtests, than will subjects who are not taught.

8. It should also be determined whether or not the treatments in the present study would produce the same results when used at different grade levels. Since only tenth grade subjects were employed, a similar study should be developed for subjects within both the intermediate and secondary levels.
9. In each of the previously-stated suggestions, it should also be determined whether or not demonstration of mastery in the two experimental groups is a significant factor affecting general reading comprehension. For instance, subjects who attain mastery of noting details in selections may perform significantly better on a comprehension test than those who do not attain mastery.
10. It should also be determined, when looking at the effect of mastery, what constitutes an adequate definition of mastery. The number of correct responses on individual skill tests by subjects could be examined concurrently with their performance on a general reading comprehension test.
11. Finally, each suggested further investigation should also include a provision for examination of results over varying intervals of time, e.g., immediately following treatment, one month later, six months later, one year later.

Results of these suggested studies would provide further insights into the effects of teaching and/or testing specific comprehension subskills.

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EFFECTS OF SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING ON GENERAL READING COMPREHENSION OF TENTH GRADE POOR COMPREHENDERS

by

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Report from the Project on
Studies in Reading, Language, and Communication

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EFFECTS OF SKILL-BASED INSTRUCTION AND SKILL MASTERY TESTING ON GENERAL READING COMPREHENSION OF TENTH GRADE POOR COMPREHENDERS

Paul J. Blohm

Under the Supervision of Professor Wayne Otto

ABSTRACT

The purpose of this study was to examine the effect on general reading comprehension of teaching and testing four subskills related to the identification of the main idea in prose material. Two general questions guided the planning and implementation of the study. First, will teaching-and-testing and testing-only main idea subskills with poor comprehenders have a measurable positive effect on their general reading comprehension? Second, will the general reading comprehension of students who demonstrate mastery of teaching-and-testing the subskills be improved more than the general comprehension of those who demonstrate mastery of testing-only?

Five hundred fifty tenth grade students were randomly assigned to three treatments in nineteen English classrooms in a central-eastern Wisconsin high school. Although all 550 students in the 19 classrooms received one of the assigned treatments, 157 students were identified as the subjects for the study, with approximately one-third of them included in each of the three treatment groups. The Instruction Group was taught and tested for mastery of the main idea subskills. The Testing Group received only the mastery tests for the four subskills.

The Control Group received no specific treatment during the experiment. The experiment was conducted over an eight-week period and the groups' general reading comprehension was assessed immediately following the experiment and again after one month. Analyses of variance and post-hoc t-tests of significance were computed to determine the differences between and among the three groups.

Immediately following treatment, the comprehension scores of the Instruction Group were (1) significantly higher than were the scores of the Control Group but (2) not significantly higher than were the scores of the Testing Group. One month later, the comprehension scores of the Instruction Group were (1) significantly higher than were the scores of the Control Group and (2) significantly higher than the scores of the Testing Group. The comprehension scores of the Instruction Group did not change significantly over the one-month delay, while the scores of both the Testing Group and the Control Group dropped significantly. Immediately following treatment, the comprehension scores of the subjects who demonstrated mastery in the Instruction Group were not significantly higher than were the scores of the subjects who demonstrated mastery in the Testing Group. After one month, however, the scores of the Instruction Group masters were significantly higher than were the scores of the Testing Group masters.

Results related to the first question suggest that a combination of teaching-and-testing main idea subskills enhances general comprehension performance immediately following treatment, though not significantly more than testing-only. After one month the three experimental groups differed from each other. The most substantial difference was between the taught-and-tested group and the untreated control group. The conclusion, then, is that a combination of teaching-and-testing main idea subskills does result in a sustaining positive effect on general reading comprehension.

The results related to the second question suggest that, for immediate purposes, it makes no difference in comprehension performance whether or not subjects demonstrate mastery of subskills after teaching-and-testing or after testing-only. One month later, however, there is a difference in favor of the group that was taught-and-tested. The suggestion is that the teaching-and-testing masters tend to retain their improved performance while the testing-only masters do not.

Wayne Otto

APPENDIX A

COMPREHENSION SECTION OF THE DESIGN II: COMPREHENSION PLACEMENT TEST (Pilot Edition)* USED TO IDENTIFY POOR COMPREHENSION

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Comprehension

Example

During the ice age, one to two million years ago, up to 27 percent of the earth's surface was covered by glaciers. These ice masses were as much as 10,000 feet deep and buried huge areas of northern Asia and Europe. In North America, the glaciers moved as far south as the Missouri River.

U. When was the ice age?

A. 10,000 years ago
B. 100,000 years ago
C. one to two million years ago
D. 27 million years ago

V. What is the topic of this paragraph?

A. glaciers are 10,000 feet deep
B. the Missouri River was covered by glaciers
C. how glaciers move
D. the ice age

Dennis worked for two hours mowing Mr. West's yard. Mr. West had agreed to pay Dennis $2.00 an hour, so Dennis earned $4.00 for that job. But Dennis still did not have enough money to buy the new seat covers for his car. He needed $30.00 more. But he knew of several other places he could work to get the money he needed. He knew that he could get $3.00 an hour for painting the trim on Mrs. Henry's garage. Dennis thought it would take about four hours to paint the garage trim. So after he finished at Mr. West's house, Dennis started to walk to Mrs. Henry's house to talk to her about the painting job. Before he got to Mrs. Henry's house, Dennis remembered that he could earn $10.00 for working at Joe's gas station from 8 to 12 that evening. Dennis went to pay phone and called Joe right away and agreed to be at the station at 8. Then Dennis went on to see Mrs. Henry. He spent three and a half hours on the painting job, but Mrs. Henry paid him for a full four hours. Now Dennis had earned $18.00 altogether. With the $10.00 from Joe he would still only have $28.00 by the end of the day. Dennis knew he had to get more money. Suddenly he thought of Mr. Cobb. Dennis raced over to Mr. Cobb's store and arranged to deliver groceries for him for the next two hours. Mr. Cobb agreed to pay Dennis $4.00.

6. How many hours did Dennis work for Mrs. Henry?

   A. two and a half hours
   B. three hours
   C. three and a half hours
   D. four hours

7. Which sentence is true?

   A. It took Dennis four hours to paint the garage trim.
   B. Dennis was paid $2.00 by Mr. West.
   C. Mrs. Henry paid Dennis for more hours than he had worked.
   D. As soon as Dennis got to Mrs. Henry's house, he remembered that he could earn money at Joe's gas station.

8. Which sentence tells the main idea of this selection?

   A. Dennis enjoyed doing part-time jobs.
   B. Dennis was a fast worker.
   C. Dennis could work all day without taking a break.
   D. Dennis worked at several jobs to get money to buy seat covers.

9. Which sentence is true?

   A. Dennis earned more delivering groceries than he did mowing the yard.
   B. By the end of the day Dennis still would not have enough money.
   C. Mrs. Henry paid Dennis just what he had earned.
   D. The seat covers would cost $32.00.

10. What did Dennis do just before he arrived at Mrs. Henry's house?

   A. delivered groceries
   B. painted the garage trim
   C. called Joe
   D. mowed the lawn

11. Which job did Dennis do second?

   A. painted the garage trim
   B. mowed the lawn
   C. worked at the gas station
   D. delivered groceries

Baby mosquitoes are called larvae and are often found in stagnant water. The larvae hatch from eggs. Mosquito larvae shed their skins four times. After this they enter a new stage and are called pupae. The pupal stage lasts only two or three days. At the end of this stage the skin of the pupa splits and a full-grown mosquito flies out.

Mosquitoes are often very annoying to humans. The female mosquito will bite a human and suck out some of the blood. This can be dangerous as well as uncomfortable. Some mosquitoes carry diseases such as yellow fever and malaria. If a mosquito bites a person who has one of these diseases, the mosquito may then carry the disease to the next person it bites.

Draining swamps and other places where mosquitoes breed can help control these pests. The swamps may also be sprayed with oil. The thin layer of oil floats on top of the water. This keeps air away from the larvae and they die.

12. How many times do larvae shed their skins?

    A. one time
    B. two times
    C. three times
    D. four times

13. Which sentence is true?

    A. Draining swamps does not help control mosquitoes.
    B. Mosquitoes are annoying but never dangerous.
    C. Full-grown mosquitoes come from pupae.
    D. Larvae are seldom found in stagnant water.

14. What is the topic of this selection?

    A. mosquito larvae
    B. mosquitoes
    C. diseases carried by mosquitoes
    D. controlling mosquitoes

15. Which sentence is true?

    A. Most mosquitoes are found in dry areas.
    B. Spraying the swamps with oil kills mainly full-grown mosquitoes.
    C. When the skin of the pupa splits, the mosquito dies.
    D. Only female mosquitoes carry malaria between humans.

16. If the egg is the first stage in the life cycle of a mosquito, what is the third stage?

    A. full-grown
    B. larvae
    C. pupae
    D. malaria

17. What happens just before the pupal stage?

    A. The eggs hatch.
    B. The larvae shed their skins.
    C. The pupa splits.
    D. The mosquito flies away.

On Saturday Ellen bought ten yards of pink material for her gown. She wanted a new gown for the big dance next Friday, but she couldn't afford to buy one already made. Ellen did a lot of sewing but sometimes she had trouble getting her clothes to fit properly. She had made a plaid dress last month and it had been much too large at the waist. A blouse she had made a year ago had sleeves that were two inches too long.

When she got home Ellen cut the gown out, following the pattern carefully. Ellen didn't want to make a cutting mistake, because the material had cost $25.00. Before she began sewing the gown, Ellen had a snack. She had skipped lunch because she had been shopping. Then she started to sew the dress together. She had to sew the neckline twice, but finally she got it right.

On Monday, before she hemmed the gown, Ellen tried it on. To her disappointment she found that the gown did not fit. It had the same problem as the dress she had made. Poor Ellen had to rip out many of the seams and start over.

18. What was wrong with the blouse Ellen made?

A. It was too large around the waist.
B. The sleeves were too long.
C. It cost too much.
D. The neckline was wrong.

19. Which sentence is true?

A. Ellen did not make the neckline right the first time.
B. Ellen could not afford to make a gown for the dance.
C. Because she had skipped lunch, Ellen went shopping.
D. Before she tried the gown on, Ellen hemmed it.

20. What is the topic of this selection?

A. sewing a gown for the dance
B. buying material for a gown
C. following directions for making a gown
D. cutting material for a gown

21. Which sentence is true?

A. The material cost over $3.00 a yard
B. Ellen made a mistake in cutting the material.
C. The gown was too big around the waist.
D. Ellen shopped for material in the evening after supper.

22. What did Ellen do right after she cut out the gown?

A. bought the material
B. ripped out several seams
C. began sewing
D. had a snack

23. What happened first?

A. Ellen bought pink material.
B. She made a plaid dress.
C. She made a blouse.
D. Ellen hemmed the gown.

The boa constrictor kills animals by squeezing the breath out of them. If, for example, a boa went after a duck, it would sneak up quietly on the duck and then strike. After sinking its fangs into the duck to get a good hold, the boa would wrap its body around the duck. There is no poison in the boa's fangs. Then, every time the duck breathed out, the boa would squeeze more tightly. Eventually the duck would suffocate. Once the duck was dead, the boa would unhinge its jaw and swallow the duck whole. The boa always swallows its prey beginning at the head. A boa will only eat animals it has killed. Boas usually eat birds, small animals, and other snakes. They rarely attack humans. After a boa has finished a good meal, it doesn't attack other animals for days or weeks afterwards.

24. What does the boa rarely attack?

  A. birds
  B. small animals
  C. humans
  D. snakes

25. Which sentence is true?

  A. The boa's fangs are poisonous.
  B. The boa constrictor leaves other animals alone for days or weeks after a good meal.
  C. Boas often attack humans.
  D. Every time the boa breathes out, the duck squeezes more tightly.

26. What is the topic of this paragraph?

  A. killing and eating habits of the boa
  B. how quickly the boa moves
  C. how often the boa eats
  D. why the boa attacks its prey

27. Which sentence is true?

  A. If a boa killed a rat, it would eat the rat beginning with the head.
  B. The day after a boa ate a duck it would probably attack several small animals.
  C. The boa would eat a dead snake it found in the jungle.
  D. The boa constrictor has no enemies.

28. What happens first?

  A. squeezes the breath out of the duck
  B. sneaks up on the duck
  C. wraps its body around the duck
  D. sinks its fangs into the duck

29. What does the boa do right after the duck dies?

  A. strikes
  B. attacks another animal
  C. unhinges its jaw
  D. squeezes more tightly

APPENDIX B

IDENTIFICATION OF SUBJECTS (B.1.) AND ASSIGNMENT OF SUBJECTS TO TREATMENT GROUPS (B.2.)

B.1

PARTICIPATING TEACHERS/CLASS PERIODS AND SUBJECTS*
IDENTIFIED FOR THE STUDY

Teacher/Class Period	No. of Students	No. of Identified Subjects
Mr. D.		
7th period	25	11
8th period	24	12
Mr. H.		
1st period	30	11
6th period	25	5
7th period	24	3
Mrs. J.		
1st period	28	8
2nd period	27	12
Mr. M.		
1st period	25	16
7th period	26	14
Mr. S.		
2nd period	22	20
4th period	29	6
8th period	16	5

---

*Subjects were identified as those students in each of the participating teachers' classrooms who demonstrated nonmastery on the Design II: Reading Comprehension Placement Test (Klumb, et. al., 1976a).

Teacher/Class Period	No. of Students	No. of Identified Subjects
Mrs. T.		
2nd period	19	8
6th period	25	12
7th period	18	5
Mrs. W.		
8th period	15	9

* * * * * * * * * * *

TOTAL CLASSROOMS:	16
TOTAL TEACHERS:	7
TOTAL SUBJECTS:	157

B.2

PARTICIPATING TEACHERS/CLASS PERIODS AND TREATMENT GROUPS

Teacher/Class Period	No. of Subjects	Random No. Assigned	Group
Mr. D.			
7th period	11	1	control
8th period	12	1	control
Mr. H.			
1st period	11	2	skill-based
6th period	5	3	skill mastery testing
7th period	3	3	skill mastery testing
Mrs. J.			
1st period	8	1	control
2nd period	12	1	control
Mr. M.			
1st period	16	3	skill mastery testing
7th period	14	2	skill-based
Mr. S.			
2nd period	20	2	skill-based
4th period	6	3	skill mastery testing
8th period	5	3	skill mastery testing
Mrs. T.			
2nd period	8	3	skill mastery testing
6th period	12	2	skill-based
7th period	5	3	skill mastery testing

Teacher/Class Period	No. of Subjects	Random No. Assigned	Group
Mrs. W.			
8th period	9	3	skill mastery testing

* * * * * * * * * * * * *

TOTAL SUBJECTS BY GROUP

Group	Subjects
control	43
skill-based instruction	57
skill mastery testing instruction	57
	157

* * * * * * * * * * * * *

KEY TO RANDOM ASSIGNMENT

condition	skill mastery testing instruction	skill-based instruction	control
random number assigned	3	2	1

APPENDIX C

THE DESIGN II: COMPREHENSION SKILL MASTERY TESTS (Pilot Edition): TESTS 15, 16, 17, and 18*

USED IN THE SKILL-BASED INSTRUCTION TREATMENT AND SKILL MASTERY TESTING TREATMENT GROUP CLASSROOMS

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Test 15: Topic with Organizer

Example:

The upper slopes of most high mountains are covered with snow all year long. Sometimes the snow is hundreds of feet deep in protected hollows. The top surface of the snow is soft, but near the bottom the snow is packed by the weight of the snow above it. This bottom snow is just like ice. These masses of snow are called snow fields.

X. A. high mountains C. soft snow
B. icy snow D. snow fields

Betty takes good care of her plants. She has learned when to feed them. She can tell when her plants need water. Betty can identify some plant diseases and she knows how to get rid of these diseases. Betty puts her plants into larger pots when their roots get crowded. She uses only the best soil, which she buys from a florist.

1. A. caring for plants C. feeding plants
B. plants' diseases D. potting plants

Bill got a new sweater for his birthday. He also got some books and a dictionary. His favorite gift was a radio. His aunt gave him the radio for his room and he plays it all the time. Bill's parents gave him a new bike to ride to school and his sister gave him some records. Bill got many fine gifts for his birthday.

2.	A. radio	C. birthday gifts
	B. books and a dictionary	D. records

The waves were high and white-capped. The dark clouds hid the sun and the wind howled fiercely. Leaves were blown all over the yard. Lightning flashed and thunder roared. Suddenly huge hailstones began to fall to earth, bouncing on the sidewalks and denting the cars. It was a terrible storm.

3.	A. a bad storm	C. high waves
	B. hailstones	D. blowing leaves

Hailstones can destroy whole fields of wheat or corn in minutes. These small chunks of ice can turn a melon patch into a wasteland. Fruit in orchards is torn from the trees. Hailstones are very damaging to any kind of farm. Even animals can be injured by hailstones. Animals as large as horses have been killed occasionally, and smaller animals such as hogs or chickens are often beaten severely by hailstones.

4.	A. fruit in orchards	C. killing farm animals
	B. damage of hailstones	D. fields of wheat and corn

Ken and Sherri made some chocolate chip cookies. They beat the sugar and butter together and then they added the vanilla and eggs. Ken measured the flour and mixed it with the salt and baking soda. Then they added the flour mixture to the rest of the mix. Last of all they put in some nuts and the chocolate chips. Sherri put the cookies in the oven and in ten minutes they were golden brown.

5. A. measuring flour C. putting cookies in the oven
   B. making cookies D. adding vanilla and eggs

Some people wear mittens made of wool. Others wear gloves made of deerskin or other leathers. Some hardy folks don't wear anything to keep their hands warm. They may put their hands in their pockets if it really gets cold, though. Or they may clap their hands together quickly several times. There are lots of ways to keep your hands warm.

6. A. wool mittens C. brave, hardy folk
   B. keeping your hands warm D. deerskin gloves

When it is summer, the arctic tern can be found near the North Pole, enjoying the long hours of daylight. In fall the tern goes south until it reaches the South Pole. It travels that far to be where the days are still long. Then, when the seasons change again, the tern flies all the way back to the North Pole. The arctic tern flies over twenty thousand miles a year. It is a champion traveler.

7. A. bird that travels a lot C. days of sunshine
   B. flying south D. the South Pole

Everyone has two sets of teeth. Your first set of teeth is called your baby teeth. You had about 20 of these. Your second set of teeth is your permanent teeth. As the teeth of your second set began to grow, they pushed against the baby teeth. This caused the baby teeth to loosen and fall out. Most people have 32 permanent teeth.

8. A. two sets of teeth
   B. baby teeth
   C. growing new teeth
   D. permanent teeth

One of the most important jobs of a forest ranger is spotting fires. He also protects the trees from damage from insects and diseases. A forest ranger has many jobs. He must decide which trees need to be cut each year. He is also responsible for soil conservation and for the well-being of the animals in his area.

9. A. soil conservation
   B. protecting trees
   C. spotting fires
   D. the jobs of a forest ranger

Meg dusted the furniture as quickly as she could. Mark washed the outside windows and Ruth ran the vacuum cleaner. They were trying to clean the whole house before Mother came home. Sally washed the pile of dirty dishes which had been building up for two days. Ned took care of cleaning the tub and doing the laundry.

10. A. washing windows
    B. cleaning the house
    C. vacuuming
    D. doing the laundry

Test 16: Topic without Organizer

Example:

The water underneath the ice of the North Pole is crystal clear. When the sun is up, the underwater plant life is covered in a deep blue glow. But during the long, sunless winters, divers must carry lights because the water is so dark.

X. A. North Pole ice
   B. underwater plant life
   C. sunless winters
   D. water under the North Pole

Crocodiles are found in swamps and in rivers with slow currents. They are found only in warm regions. The feet of crocodiles are webbed. Their eyes and nostrils are on top of their long flat head. When the crocodile is in the water looking for food, it can keep its eyes and nose above water. A crocodile's mouth is large and its jaws are very powerful.

1. A. swamp creatures
   B. the crocodile's head
   C. webbed feet
   D. the crocodile

Parasites invade the bodies of other plants and animals. A parasite gets its nourishment from the living tissue of the other organism. These organisms are called the hosts. Gradually the parasite steals the strength of its host. Usually it is to the advantage of the parasite to keep the host alive as long as possible. When the host dies, the parasite has to go looking for another food source.

2. A. plants and animals
   B. parasites and hosts
   C. living tissue
   D. nourishment

Sally circled the block again. She tried to squeeze her car in behind a motorcycle, but there just wasn't enough room. Sally thought she had found a spot right in front of the shoe store, but there was a No Parking sign. Finally Sally drove three blocks away and parked in the city lot. She was unhappy about having to do this. It cost her a dollar. Sally wished there were more parking spaces in Grantville.

3. A. Grantville C. No Parking sign
   B. finding a parking space D. parking behind a motorcycle

When I visit Washington, D.C. next month I want to be sure to visit the White House. I also plan to see the Washington Monument, the Lincoln Memorial, and the Jefferson Memorial. My sister wants to go to the National Gallery to look at paintings while I go to a Redskins game. We both will visit the Smithsonian Institute and look at the many exhibits there. Our last stop will be at Arlington Cemetery where we will visit the graves of the two Kennedys.

4. A. a trip to Washington, D.C. C. visiting monuments to Presidents
   B. the Redskins game D. the Smithsonian Institute

Squash is a game played with a racket like the one used for badminton. The two players use the rackets to hit a small, hard rubber ball. The game is played inside on a court with wooden walls. A player hits the ball against the front wall and the other player must hit the ball again before it touches the floor more than one time. The ball may bounce off the walls but it may touch the floor only once. Squash is a very tiring game because the players have to run hard to get to the ball in time.

5. A. a hard rubber ball C. the game of squash
   B. wooden walls D. running hard

Paul glued the big bushy red eyebrows in place. He had painted green circles on his cheeks and purple lines around his eyes. Paul had used white paint to make his mouth appear much larger. He had stuck huge false ears over his real ones. The last touch for his clown makeup was a gigantic red nose, about the size of a tennis ball. He carefully stuck this in place and then bounded out to entertain the group.

6. A. bushy eyebrows
   B. huge ears
   C. a gigantic red nose
   D clown makeup

The Wintu hut didn't have a door. A person had to bend almost double to enter through the small hole. There was just one small window hole. The hut had three rooms and no furniture at all. Two of the rooms were for sleeping and one was used to shelter the cattle of the Wintu. The floor was dirt and the Wintu built their cooking fire in the middle of the floor.

7. A. no furniture
   B. a Wintu hut
   C. sheltering cattle
   D. cooking fires

Roger got out the wrapping paper and ribbon. He placed the package in the center of the gift wrap and cut the paper to fit. Then he carefully folded the paper around the package and taped the ends neatly shut. The paper was green and gold, so Roger chose a shiny gold bow to put on the package. He signed the card and taped it to the top of the package.

8. A. putting on a bow
   B. Roger
   C. wrapping a package
   D. cutting the paper

Tobago is in the West Indies. It is known for its endless white coral beaches and its friendly people. The population of Tobago is 34,000. The island is 26 miles long and seven miles wide. It is 18 miles north of Trinidad. Tobago is famous for the many varieties of birds that live there.

9. A. the birds of Tobago C. the population of Tobago
B. Trinidad D. what Tobago is like

Peter carefully packed a firm, perfectly round snowball. Then he dropped the snowball into the deep snow and began to roll the ball over and over. Gradually the small snowball became larger and larger. When it was over two feet across, Peter picked it up and placed it on top of the huge ball of snow that Anita had made. Greg came up with a smaller ball and placed it on top of the others. The three children added coal for the eyes and the mouth a carrot for the nose, and a large pot for a hat.

10. A. rolling snowballs C. Peter
B. making a snowman D. using a pot for a hat

Test 17: Main Idea with Organizer

Example:

The coleus plant has leaves of green, yellow, orange, purple, and brown. The coleus needs a warm area and lots of water. It is a good idea to water it often. The soil should be of equal parts of loam, peat, and sand. The plants should be grown in strong indirect light. There are many things to remember about taking care of a coleus.

X. A. Warmth and water are good for the coleus.
   B. You have to remember a lot of things to take care of a coleus properly.
   C. The best soil for a coleus is made up of loam, peat, and sand, in equal parts.
   D. Coleus leaves can be of many different colors.

Mark's alarm did not go off on time this morning and as a result he was almost late for school. The shirt he had planned on wearing had two buttons missing so he had to wear an old sweater that was all wrinkled. Nothing went right all day. In English class Mrs. Best gave a surprise quiz. She does that a lot. In gym class Mark tripped and twisted his ankle. After school he missed the bus and had to walk home.

1. A. Mark twisted his ankle in gym class.
   B. There was a pop quiz in English.
   C. Everything went wrong for Mark all day long.
   D. Mark had to walk home because he missed the bus.

Swarms of African bees are becoming very dangerous in Brazil. The venom of these bees is not particularly strong, but the bees are easily irritated. In addition, the bees usually attack in large numbers, inflicting hundreds of stings upon the victim. In the past ten years, over 200 people have died in Brazil as a result of bee stings. Recently a swarm of bees attacked a group of people at a bridge. Over 160 people were injured and five were sent to the hospital.

2. A. Over 200 people in Brazil have been killed by bee stings in the last ten years.
   B. There are dangerous swarms of African bees in Brazil.
   C. Not long ago a group of people were attacked by a swarm of bees at a bridge.
   D. African bees usually attack their victims in swarms.

Before you start on your hike, learn about the kinds of poisonous snakes you may encounter. Learn to recognize these snakes by sight. Be sure to wear knee-high boots that are made of heavy leather. Wear your pants outside your boots, hanging loosely. The snake may strike at your floppy pants instead of your leg. Snakes love to lie in the warm sun, so don't ever put your hands or feet in any place you can't see. These are sensible tips for avoiding snakebites while hiking in the outdoors.

3. A. There are many ways to avoid being bitten by snakes.
   B. Wear high boots and floppy trousers.
   C. Never put your hands or feet in a place that you can't see.
   D. Know about the kinds of snakes that live in the area.

The "white banana" has traveled more than 17,000 miles in its first year. It has carried 54 very ill persons to larger hospitals where special treatment was available. These people were so ill that they could not have been moved in a regular ambulance. So they were moved in the specially equipped ambulance called the Mobile Critical Care Unit. It was built by National Motors. This unit has cost the hospital over $100,000, but it has been worth it. Over 40 lives have been saved by using this special ambulance. The "white banana" is an important part of the medical services of our town.

4. A. The "white banana" has cost over $100,000.
   B. Over 40 lives have been saved because of the Mobile Critical Care Unit.
   C. The Mobile Critical Care Unit is a very important medical service.
   D. 54 people who were very sick have been moved in the "white banana."

West Minland has attacked the neighboring island of Wurst. West Minland paratroopers have landed in the capital city of Randers. Randers has a population of about 30,000 people and is on the south shore of the island. Warships have also been shelling the city and many people have been killed. Others have fled to the hills.

5. A. Many people have been killed.
   B. Wurst has been attacked by its neighbor, West Minland.
   C. Randers has been captured.
   D. Paratroopers from West Minland have dropped into the capital of Wurst.

The decorations were purple and black. All of the lamps were covered with black cloth and topped with skulls. The doors were covered with cobwebs. It was a very unusual party. The punch was bright red and raw meat was served with crackers. The guests were dressed like famous monsters. The best costume was of a wolfman. Each of the 60 guests received a party favor — an autographed picture of Dracula.

6. A. The party was not like most parties.
   B. Raw meat and red punch were served.
   C. The lamps had skulls on top of them and were covered with black.
   D. Everyone got a picture of Dracula to take home.

Fifteen wheelchairs and two beds on wheels formed a parade down Third Street. Several of the wheelchair occupants carried posters that said "Give to the Garvey Fund." About ten other people walked along with the wheelchair group and these people carried signs, too. The parade was a 10-mile trip to raise money for the Garvey Fund. The parade was organized by the Green and White Club. The hike was successful. It raised over $800 for the Garvey Fund. The Garvey Fund sponsors research into crippling diseases.

7. A. The Green and White Club organized the parade.
   B. The Garvey Fund supports research against diseases that can cripple.
   C. Many of the persons in the wheelchairs carried posters.
   D. There was a parade to raise money for the Garvey Fund.

The first sign of trouble may be a notice arriving in the mail to inform you that you have not paid your taxes. Next the government will help you arrange a monthly payment schedule for your back taxes. If such a schedule is not made or not followed, the government can attach some of your take-home pay. It can even seize your bank account or your house. If fraud can be proved, you could even go to jail. This has happened to several gangsters who could not be arrested for anything else. All these things can happen to you if you don't pay the federal income tax you owe.

8. A. You can arrange a monthly payment schedule to pay the taxes you owe.
   B. The government can take over your bank account or sell your house.
   C. There are many things that can happen to you if you don't pay your federal income tax.
   D. If the government can prove that you defrauded them, you might go to jail.

Sam was in charge of planting the vegetable garden. He spaded up the soil and raked it smooth. This made him tired, so he stopped for a while and just rested. Then he marked out very straight, evenly spaced rows for carrots, lettuce, beets, and radishes. He planted the seeds and pressed the fine soil down over them. After he gave the garden a good soaking, Sam treated himself to a big dish of ice cream.

9. A. Sam had a dish of ice cream after he finished watering the garden.
   B. He made rows of radishes, beets, carrots, and lettuce.
   C. Sam raked the soil after he had spaded it.
   D. The vegetable garden was planted by Sam.

There are over 300 workers at a factory in Bay City. This year, as in the past 42 years, each worker got a large holiday bonus. This year the bonuses averaged $11,608 per worker. The bonuses are based on a merit-rating system. A worker is rated on the quantity and quality of the work he or she does. A worker is also rated on cooperation and on ideas contributed.

10. A. Workers got large bonuses again this year.
    B. The merit-rating system is used to assign bonuses.
    C. Many people work at a factory in Bay City.
    D. Quantity and quality of work help to decide a worker's bonus.

Test 18: Main Idea without Organizer

Example:

Bert carries out the trash for his mother. He also dries the dishes for her and cleans his room. Sometimes he will make supper if his mother is late getting home from work. Bert also helps out by babysitting for his two younger brothers occasionally. Last year he helped the family save money by painting the garage himself.

X. A. Bert babysits for his brothers.
B. Bert is very helpful around the house.
C. If his mother is late, Bert may make the supper.
D. The supper dishes are dried by Bert.

Sharon didn't like the way Beth washed the dishes. She thought Beth didn't do a careful job. Sharon also felt that Beth didn't do her share of the cleaning. They had been roommates for a month and Beth had only dusted once. She said she was too tired after coming home from work. The way Beth left her clothes lying around also annoyed Sharon. Sharon was a very neat housekeeper herself.

1. A. Beth did a poor job washing the dishes.
B. Sharon and Beth had been roommates for a month.
C. Sharon didn't like the way Beth kept house.
D. Beth was often tired after working all day.

Buzz and Jim were in the Adams Building for job interviews. They stepped into the elevator and pressed the button for the sixth floor. The elevator groaned and started moving slowly. It had only moved a few feet when there was a loud noise and the elevator stopped. It wouldn't move up and it wouldn't move down. Buzz pressed the button to open the door, but nothing happened. Jim finally punched the alarm button. Within a few minutes someone had fixed the elevator and the two captives were free.

2. A. It didn't take long to fix the elevator.
   B. The door wouldn't open when Buzz pressed the button.
   C. Buzz and Jim were going for job interviews on the sixth floor.
   D. The elevator broke down while Buzz and Jim were in it.

Some of the subway stations in Moscow have chandeliers in them. Many of the stations have lovely paintings covering the walls. Statues and stained glass windows are common in the subways. Some of the stations even have decorative fountains. People must enjoy visiting these subway stations.

3. A. There are paintings on the walls in the subway stations.
   B. You can find stained glass windows in the subways.
   C. People like to visit the Moscow subways.
   D. Many of the subway stations in Moscow are beautifully decorated.

The latest eruption of Mt. Larnet tore a mile-wide gash in the mountain. Red-hot lava poured down the side of the mountain, but there were no reports of death, injuries, or damage to property. The volcano is in an isolated area and few people live near it. However, trees and brush were set on fire by the river of lava and several roads were covered over by the liquid rock. Ashes from the eruption settled on the village of Parry, over fifteen miles away.

4. A. No one was injured when the volcano erupted.
   B. Mt. Larnet has erupted again.
   C. The village of Parry was covered by ashes by the eruption.
   D. A gash a mile wide was torn in the mountain by the eruption.

The Pony Express was established after gold was discovered in California. In the winter the Pony Express riders had to battle huge drifts that filled the mountain passes. Terrible blizzards made them lose their way and more than one rider froze to death. In the summer the riders of the Pony Express were often attacked by robbers. Water was often scarce between home stations and there was always the danger that a rider's horse might go lame far from help.

5. A. Many riders lost their way in blizzards.
   B. Robbers often attacked Pony Express riders.
   C. Gold was discovered in California.
   D. Pony Express riders faced many dangers.

Miss Abigail has a rocking chair that is over 150 years old. She has matching end tables that were once owned by Thomas Jefferson. The window in her hall is stained glass and came from a church that was torn down 75 years ago. Miss Abigail has a lovely collection of old glassware. Her kitchen is up-to-date, though. She likes baking and wants to have the latest equipment. She does keep an old spinning wheel in her kitchen. It is placed near the fire. On cold nights Miss Abigail sits near the fire and reads books on antiques.

6. A. Miss Abigail likes to read books about antiques.
   B. The rocking chair is very old.
   C. Miss Abigail has antiques in her house.
   D. The kitchen in Miss Abigail's house is very modern.

Corn was the main crop of the American Indians when European settlers arrived. The Indians showed the Europeans how to grow corn. They also introduced them to squash, sweet potatoes, and pumpkins. The Indian tribes of the Northeast showed the settlers how to make maple sugar and maple syrup. The first settlers thought that wild rice and wild onions were just weeds, but friendly Indians showed them that they were good as food.

7. A. The Indians showed the European settlers new foods.
   B. The settlers learned how to make maple sugar from the Indians.
   C. The settlers learned to eat wild rice and wild onions.
   D. Squash, sweet potatoes, and pumpkins were all new foods to the Europeans.

Woolly mammoths were bigger than the elephants we know today. They sometimes were 14 feet high at the shoulders. The mammoth's back legs were shorter than its front ones. The legs of elephants today are about the same length. The tusks of the mammoths were more curved than the elephant's and its tail looked like a little rope with a frayed end. Like the elephant, the mammoths ate plants. We know this because frozen mammoths have been found and the contents of their stomachs have been examined. The woolly mammoth was covered all over with shaggy hair, but the elephant lives in a warm climate and doesn't need hair to keep warm. Mammoths disappeared 6,000 to 10,000 years ago. No one really knows why.

8. A. The tail of the mammoth looked like a rope with a frayed end.
   B. Some mammoths were 14 feet high.
   C. Mammoths were like elephants in some ways and were different from elephants in other ways.
   D. The stomachs of frozen mammoths have been examined.

Pete found several old letters in a trunk in the attic. There were very old stamps on the envelopes and Pete was able to steam the stamps off to add to his collection. He was given two old stamps by his Aunt Sarah. She had found them at the back of a drawer in an old desk. Pete also went to the Stamp Shop and bought five stamps for his collection. Two of these stamps were used but three of them had never been cancelled. Pete just needs fifteen more stamps to complete his album.

9. A. Aunt Sarah sent some stamps to Pete.
   B. When Pete gets fifteen more stamps, his album will be complete.
   C. Pete has added several stamps to his collection.
   D. Pete found some old stamps in a trunk in the attic.

Jim Thorpe was a Sac and Fox Indian. He was born in Oklahoma in 1888. He played on his school's football, tennis, baseball, and track teams. He was a star on each of these teams. In 1912 he won two gold medals at the Olympics. He also played professional football and professional baseball. He was voted the greatest athlete in the first half of the twentieth century. Jim Thorpe was admitted to the Football Hall of Fame in 1951 and died in 1953.

10. A. Jim Thorpe won two gold medals.
    B. Jim Thorpe was an outstanding athlete.
    C. In 1951 Thorpe became a member of the Football Hall of Fame.
    D. Thorpe played professional baseball.

APPENDIX D

DIAGNOSTIC READING TESTS SURVEY SECTION: UPPER LEVEL
(GENERAL READING AND COMPREHENSION)--Form B (D.1.)*
AND FORM D (D.2.)* USED TO MEASURE SUBJECTS'
GENERAL READING COMPREHENSION

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D.1

DIAGNOSTIC READING TESTS
SURVEY SECTION: UPPER LEVEL

(From Grade 7 through College Freshman Year)

FORM B

By *The Committee on Diagnostic Reading Tests, Inc.:*
Frances Oralind Triggs, *Chairman:* Robert M. Bear, Dartmouth College:
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Arthur E. Traxler, Educational Records Bureau; Frederick L. Westover, University of Alabama.

PART 1: GENERAL READING

DIRECTIONS: This is a test of your skill in general reading. Read the short article in this test in the same way that you ordinarily read any easy, interesting stories or articles. Read as rapidly as you can and still understand what you read. When you finish reading, you will be asked to answer questions on the material you have read.

To start the test, everyone will read together the lines at the bottom of this page. The examiner will read *orally* and you should follow, reading *silently*. When we come to the last word on the page, the examiner will stop, and you will simply turn the page and keep right on reading.

When you finish reading you will find printed directions telling you what to do next. DO NOT READ ANY PART OF THE SELECTION MORE THAN ONCE.

If you have any questions about the directions, *ask them now;* if not, wait for the signal to turn to the next page.

THE COYOTE

The sly coyote that chatters and howls from lonely western hillsides tonight is probably boasting of another victory. He has been hounded more than any other American animal; every device and trick known to man—financed by local, state, and federal government—has been used in a long and unceasing battle to get rid of him. Between fifty and one hundred thousand are killed every year in this country, but the little wolf is holding his own and has spread from his original haunts in the prairies and mountains of the West to many a new neighborhood. Today at least two million roam the western United States looking for a mess of poultry or juicy lamb.

The coyote could retreat to the vast ranches and rough wastelands and live in peace, but that does not suit him. He is a wise fellow and delights in living among his enemies, matching wits with them and feasting on the food they produce.

A top-notch government trapper who found every one of his three dozen traps sprung and robbed of bait recently remarked: "The coyote is the smartest animal alive." A farmer who saw all the ripe watermelons in his patch opened and partly eaten had stronger words; but he did wonder why the thief had not tried at least one green melon. There is a very good answer. Experts of the Wildlife Service have never found a single instance of a coyote's having bitten a green watermelon.

The coyote is a yellowish-gray animal resembling a small police dog. He seldom weighs more than thirty pounds. His speed has been clocked at forty miles an hour by an automobile. Scientists describe him as a lower or inferior member of the wolf family. That makes life no less dear to him. He thrives in regions in which the supposedly braver, wiser and more ferocious wolf is extinct.

Tricks help the coyote survive—tricks as clever as one pulled by Tippy, a pet reared by a family in Texas. Tippy's liking for fresh poultry stuck with him in captivity, and he began catching chickens. The family chained Tippy to a corner of the house and fed him scraps. Tippy promptly scattered the scraps within the length of his chain and retired around the corner. The chickens ventured forth to pick up the scraps, and Tippy picked up fresh poultry.

A fat coyote is seldom, if ever, seen. Regardless of the abundance of food, he stays in top condition for the running and fighting he knows he must do. As a fighter, he is quick as lightning and has a devilish trick of dragging his teeth through the flesh of any enemy he bites; a dog rarely asks for a second helping. But he fights only in emergencies, preferring to use cunning, either instinctive or developed.

A rancher walking or riding about his place without a gun may see coyotes at close range. He takes his gun the next time—and does not see a single one. Trappers for the Wildlife Service say the coyote's keen sense of smell detects the gun. Some people say the coyote has a special sense which other animals do not have.

The notion that the coyote possesses an almost supernatural sense is not new. Before Columbus discovered America, the inhabitants of Mexico recognized his cunning and often decorated their sculpture with the likeness of the smart little beast's head. And in Mexico today he lives in folklore and literature. He is still very much alive, too, and still respected by man. Natives tell of watching a coyote under trees in which turkeys or other birds are roosting. By madly chasing his tail he makes the birds so dizzy they drop off the roost.

The coyote may have no supernatural gifts. He does not need them; his good common sense is enough. He knows how to stalk unsuspecting badgers that are excavating some smaller animal's burrow in order to make a meal of it. The quick coyote grabs the rodent unearthed by the laboring badger. He watches buzzards and birds of prey—and takes their kill or the food they find. But he knows how far he can safely go in the business of making others provide his food. Experienced hunters say they have never heard of a coyote eating the kill of a mountain lion. In his way of thinking, it does not contribute to the length of his life to start an unnecessary fight. Besides, there are other ways of getting something to eat.

Coyotes began to hunt for food along the highways soon after they learned that travelers tossed out scraps, and that traffic on the highways killed rodents and birds. The coyote would prefer poultry or lamb, but such morsels are not essential; he does well on any food man produces, and on many that man would not touch, such as snakes, lizards, and insects. Even shoe leather makes an emergency diet. When he can get it, the coyote often eats fruit for dessert.

The almost human family life of the coyote contributes much to his ability to live and increase in a world of enemies. He is perhaps the most moral and home-loving animal in the world. He lives in a den dug in a bluff, under an overhanging rock, or beneath a stump. The den is located within range of a food supply. In most cases there are two dens, one for the mother and the young, and the other for the father.

There is strict discipline in the coyote home. The first thing a pup learns is that danger is near every instant he lives; then he is taught to hunt food and to fight. Under no circumstances will the pups cross the out-of-bounds line around the den. When the pups spy their father returning to the den, they tumble over each other running to meet him. But, regardless of how far away the father may be, they halt at a fixed spot approximately fifty yards from the den.

The pups nurse two weeks; then they are taken out one by one, usually by the father, and taught to hunt. They start on large insects, such as grasshoppers, and graduate to field mice and rabbits. Next the parents watch the pups fight among themselves and occasionally step in to show them how it is done. Parents keep their young under close protection until the pups are almost a year old and practically grown.

It is doubtful whether the young of any other wild animal have such good care. Their parents know a lot about sanitation. Some dens explored by hunters were well ventilated in the back through a hole dug to the top of the ground. A Wildlife Service observer saw parent coyotes rolling their young in the sand, watched them, and saw that the coyotes did not return to the old den but dug a new one not far away. The observer investigated the old den; it was alive with fleas. The sand rolling and the removal to a new den were obviously to get rid of the fleas.

The father is the boss and protector in the coyote home; he is larger than the female and a thoughtful husband. More than one observer has seen the male dash almost into the teeth of howling dogs and lead them away from the den. When trailing dogs get within a mile of a coyote's home, the male takes up the chase and leads them away. Many times dogs have jumped the female when she was prowling far from the den only to have the male cut in and lead the dogs away.

Two coyotes, resting and running in relays, can wear down a jackrabbit in a short time. And many a pack of trailing hounds has been confounded by the team-work of a pair of coyotes. One takes on the dogs for a while and drops down to rest; then the other has his turn. They backtrack, cross-track and break their trails in streams. It is not unusual for trailing dogs, even well-trained ones, to end by running in circles while the coyotes escape. At times this seems more like daring sport than a self-protection measure.

If the going gets too hot or food grows scarce, the coyote moves on to new country and soon makes himself at home. Tourists from eastern states frequently buy or find coyote pups in the West and take them home as pets. The pets usually escape. Sportsmen pick up coyotes and take them to various parts of the country for the purpose of chasing them with hounds. Through these kidnappings and through natural migration the coyote has spread far from his former home.

If on some dark midnight you hear a spine-tingling howl, you need not close the door; the coyote will not harm you. Anyway, he is farther or nearer than he sounds, and you cannot find him.

But whether it is a howl of triumph, a call to a mate, or a warning of some danger, the other coyotes understand. If you listen closely, you may hear faint howls in the distance; the coyotes are relaying the message. Man has determined that coyotes have a relay system of communication, but he cannot decode the message, which must remain a secret of Nature.

QUESTIONS ON *The Coyote*

DIRECTIONS: Read the statement. Choose the answer that agrees with the test selection you have just read, even if you have a different opinion about it.

IF THE ANSWERS ARE TO BE RECORDED IN THIS BOOKLET, place the number of the answer in the parentheses at the right. Study the following example:

Sample: The color of grass is

(1) green (2) blue (3) purple (4) orange . . . . (1)

IF THE ANSWERS ARE TO BE RECORDED ON SEPARATE ANSWER SHEETS, make a *heavy, black, glossy mark* on the answer sheet under the number that agrees with the number of the answer you chose. Use the special pencil which your examiner gave you. Study the following example:

Sample: The color of grass is

(1) green (2) blue (3) purple (4) orange

1	2	3	4
▮	⁞	⁞	⁞

Notice the space under number one has been marked because the correct answer, green, has that number.

Do NOT go back to the reading selection.

1. The coyote prefers to live
   - (1) as far from other animals as possible . . . . ( )
   - (2) far out in the rough wastelands . . . . ( )
   - (3) in large packs of fifty or more . . . . ( )
   - (4) among his enemies . . . . ( )

2. One sign of the craftiness of coyotes is the fact that they never
   - (1) go near baited traps . . . . ( )
   - (2) bite into green watermelons . . . . ( )
   - (3) go near houses in which people are living . . . . ( )
   - (4) eat food which has been touched by humans . . . . ( )

3. The coyote belongs to the same animal family as the
   - (1) badger . . . . ( )
   - (2) fox . . . . ( )
   - (3) wolf . . . . ( )
   - (4) police dog . . . . ( )

4. The fastest speed at which a coyote has been observed to run is
   - (1) 10 miles an hour . . . . ( )
   - (2) 20 miles an hour . . . . ( )
   - (3) 30 miles an hour . . . . ( )
   - (4) 40 miles an hour . . . . ( )

5. Tippy, the pet coyote, caught chickens in spite of the fact that he was
   - (1) chained to a house . . . . ( )
   - (2) locked in a shed . . . . ( )
   - (3) kept in a wire cage . . . . ( )
   - (4) tied to a tree and muzzled . . . . ( )

6. Coyotes will fight
(1) whenever they have a chance..( ) 169
(2) only when they have to..( )
(3) with any animal which has food they like..( )
(4) with smaller animals, but never with dogs or other animals their own size( )

7. Fat coyotes are seldom seen. The reason for this fact is said to be that the coyote
(1) never really gets enough to eat..( )
(2) wears himself thin by being constantly on the move in search of food....( )
(3) keeps himself in condition for running and fighting..( )
(4) hides from men during the period when food is most plentiful..........( )

8. If you really want to see a coyote, you will not
(1) carry a gun..( )
(2) take anyone else with you..( )
(3) ride a horse..( )
(4) walk along a road..( )

9. Likenesses of coyote heads have been found decorating
(1) Indian wigwams..( )
(2) South American temples..( )
(3) Indian tombstones..( )
(4) Mexican sculpture..( )

10. Coyotes have never been known to take food from
(1) badgers..( )
(2) mountain lions..( )
(3) buzzards..( )
(4) other coyotes..( )

11. When other food is difficult to find, coyotes have been known to eat
(1) shoe leather..( )
(2) clam shells..( )
(3) cloth and paper..( )
(4) their own pups..( )

12. A favorite food of the coyote is
(1) fish..( )
(2) buzzards..( )
(3) birds' eggs..( )
(4) lamb..( )

13. The author of the article believes that one reason for the coyote's ability to survive is
(1) his reckless courage..( )
(2) his unwillingness ever to expose himself to danger..( )
(3) the almost human character of his family life..( )
(4) his sense of humor..( )

14. Coyotes are considered
(1) careless and indifferent parents.................................( )
(2) poor housekeepers.................................( )
(3) home-loving animals.................................( )
(4) miserly hoarders.................................( )

15. Coyote pups
(1) never venture far from their dens.................................( )
(2) do not leave their dens until they are nearly full-grown................( )
(3) leave their parents when they are about six months old................( )
(4) begin to hunt on their own when they are about two months old.........( )

16. The first thing coyote pups learn is
(1) how to hide themselves.................................( )
(2) that they live in constant danger.................................( )
(3) how to fight.................................( )
(4) that they must be considerate of each other.........................( )

17. Coyotes sometimes roll their pups in sand to
(1) punish them for disobedience.................................( )
(2) dry them after bathing.................................( )
(3) make it more difficult for other animals to smell them.................( )
(4) rid them of fleas.................................( )

18. Evidence that coyotes are concerned about the sanitation of their dens is found in the fact that they
(1) change dens several times during a season.........................( )
(2) clean out their dens and line them with fresh sand regularly............( )
(3) line their dens with branches and leaves, which they change regularly.....( )
(4) provide holes for the ventilation of their dens.........................( )

19. When a female coyote is being chased by dogs, the male is likely to
(1) run back to his den to protect the pups.........................( )
(2) cut in and lead the dogs away from the female.........................( )
(3) attack the dogs and be killed trying to protect his mate................( )
(4) conceal himself until the female has led the dogs away.................( )

20. Coyote pups which are captured and taken home by tourists usually
(1) die.................................( )
(2) grow mean and vicious.................................( )
(3) escape.................................( )
(4) adjust easily to captivity and become affectionate pets................( )

Wait for the signal before going on.

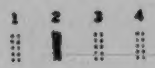
PART 3: COMPREHENSION

DIRECTIONS: This test consists of a series of passages on different topics. Each passage is followed by several questions. These questions concern the main ideas in the passages, important facts which are given, the order of events, and conclusions you can reasonably draw from the ideas in the passages. You are to *read each passage and then try to answer the questions which follow it.* If you do not remember the answer to a question, you may reread the passage to find it, but you will be able to complete the test more rapidly if you read carefully enough to answer the questions at once.

IF THE ANSWERS ARE TO BE RECORDED ON SEPARATE ANSWER SHEETS, you are to choose the one of the four possible answers to each question that is correct, note its number, and blacken the position corresponding to the number on the answer sheet with the special pencil which your examiner gave you. Make *heavy, black, glossy marks.* Study the following example:

Sample: The main idea of paragraph 1 in *Directions* is that:

(1) this is a test of vocabulary
(2) you are to read passages and answer questions on their meanings
(3) you are to read each passage more than once
(4) this is a test to see how rapidly you can read



Notice that the space under number two has been marked because the correct answer, "you are to read passages and answer questions on their meanings," has that number.

Your first answer is to be recorded on space 81 of the answer sheet even if you did not finish all of the questions in the vocabulary test.

If you have any questions about the directions, *ask them now;* if not, wait for the signal to turn to the next page.

THE RIGHT OF LOCAL SELF-GOVERNMENT

We have had the plan of local self-government since before the American Revolution. It is an idea inherited from our English ancestors that each community should take care of its own affairs. Thus, the early colonists, if they felt a stockade was needed for the defense of the settlement against the Indians, made their own plans, provided their own labor, and carried through the project. If they thought everyone should be at home and off the streets at nine o'clock, they made a local curfew rule to that effect.

To enforce their laws, they set up their own court similar to the court of justice of the peace, which they had known in England. They built their own stocks to punish offenders of the local law. Gradually, the needs of these settlements broadened and we find them hiring their own schoolmasters and improving the roads leading to the community church.

ALONE AND INDEPENDENT. It is not hard to see why each settlement had its own rules. Each was isolated from every other inhabited place. Seldom did its citizens come in touch with people from other communities. And so it made small difference to the citizens in one place what kind of laws the people of another community passed to regulate their lives.

Only when the population increased, when settlements crowded on one another, and good roads brought them closer together, did American localities recognize the need for common action to meet common problems. There developed the feeling, for instance, that for such matters as defense against the Indians, a bigger government was necessary.

Services of government in the beginning meant services which the people living close together provided for themselves.[1]

81. The main idea of the first paragraph is that
    (1) the idea of local self-government came from our Euroepan ancestors.......................................( )
    (2) the curfew and the stockade were established by pioneers who thought each community should make its own laws..( )
    (3) the early colonists had strict ideas of conduct..........( )
    (4) since before the American Revolution, we have been accustomed to the idea of self-government.................( )

82. The main idea of the third paragraph is that
    (1) each settlement had its own rules because it was physically isolated from every other inhabited place..............( )
    (2) citizens of one settlement were never faced with problems they could not solve alone...........................( )
    (3) citizens of one community did not care what rules another community had.....................................( )
    (4) it is not hard to see why people made their own rules.....( )

83. The increase in population and the building of good roads
   (1) made people in crowded eastern communities move farther west..( )
   (2) created an interest in cooperation among communities....( )
   (3) made it necessary to build defenses against the Indians...( )
   (4) simplified the problems of community life..............( )

84. The early colonists punished wrong-doers by
   (1) putting them in with the cattle.......................( )
   (2) confining them in the stockade........................( )
   (3) placing them in a wooden frame.....................( )
   (4) sending them to another community..................( )

85. A conclusion that can be drawn from this passage is that
   (1) local self-government is an outgrowth of the American form of democracy...............................( )
   (2) national government came when whole colonies became aware of one another and the commonness of their problems...( )
   (3) the rules of different colonial communities were very much alike..( )
   (4) colonial people believed in having things done for them by other people if at all possible.........................( )

ANDROCLES AND THE LION

One day, when the Roman people were being gratified with the combats of many outlandish beasts, there was one lion among others which, by reason of its furious demeanour and strength and size of its limbs attracted the attention of all the spectators. Among the slaves that were offered to the people in this fight with animals was one Androcles of Dacia. The lion, perceiving him from a distance, at first stopped dead, as if in wonder, then softly approached in a gentle and peaceable manner, as if trying to recognize an acquaintance. Then he began to lash his tail in a manner of a dog fawning on his master. When Androcles had recovered his spirits in consequence of the gentle behaviour of the lion, it was a singular pleasure to see their mutual joy and caresses. The people breaking out into loud acclamations of joy at this sight, the Emperor sent for the slave to know from him the meaning of this strange scene.

He then told a novel and wonderful story: "My master," he said, "being Proconsul in Africa, I was forced by his cruelty and harsh treatment in having me beaten every day to steal away from him, and take flight. I happened to discover a hidden and inaccessible cave, and threw myself down inside it. Soon after there came this lion with a wounded and bleeding paw. At his coming I was very frightened, but he softly approached, holding out and showing me his injured paw, as if to entreat my help. I then pulled out of it a large splinter, and squeezed the wound and let out the accumulated dirt, wiped and cleaned it as well as I could.

"After that the lion and I lived together for three whole years in that cave, sharing the same food. At length, growing weary of that wild and brutish life, I departed, and on the third day after was caught by the soldiers, who brought me from Africa to my master in this city. He immediately condemned me to death by being delivered to the wild beasts. Now, by what I see, this lion was also caught soon after, and would now repay me for the good turn I did him in curing his wound."[2]

86. The main idea of the whole passage is that
- (1) Androcles could not fight the lion because the lion recognized him ....( )
- (2) Androcles lived three years in a cave with a lion who looked very large, strong, and fierce...................( )
- (3) the Roman people came to see a fight that did not come about ....( )
- (4) the lion would not fight the slave because the slave had once befriended him..............................( )

87. The main idea of the third paragraph is that
- (1) both lion and slave, who had lived together, were caught and set to fight one another..........................( )
- (2) the slave grew weary of wild life and left the cave, only to be caught ....( )
- (3) the master sentenced the slave to death by being delivered to the wild beasts, because he had run away from his work( )
- (4) the lion with which he had lived for three years before capture repaid the slave for curing his wound..........( )

88. The slave had run away because
- (1) he wanted to live like a wild beast in a cave.............( )
- (2) he wanted to escape his master's cruelty...............( )
- (3) his master had been exiled to Proconsul...............( )
- (4) he did not enjoy city life.............................( )

89. When the lion first saw Androcles he
- (1) softly approached ....( )
- (2) stopped dead ....( )
- (3) lashed his tail.......................................( )
- (4) caressed him ....( )

90. A conclusion that can be drawn from this passage is that
- (1) if you are kind to others, they in turn may protect you...( )
- (2) the lion was not a gentle creature.....................( )
- (3) Androcles was hard to get along with..................( )
- (4) punishment in the days of the Romans was mild in comparison with that of today...........................( )

VENUS OBSERVED (NASA)

NASA's Mariner II space craft flew past Venus at a distance of 21,648 miles, giving man his first relatively close-up observation of earth's mysterious planetary neighbor. This Venus fly-by climaxed an epic space flight experiment that has significantly advanced the world's knowledge about Venus and about interplanetary space and contributed to planning for man's eventual journeys to the moon and to other planets.

The Mariner observations, together with radar and optical studies made from earth, should cause man to discard any romantic conception that may have persisted of Venus as a place with earth-like qualities. Mariner found that the temperatures of Venus may be as hot as 800 degrees Fahrenheit. This temperature, hot enough to melt lead, precludes the possibility of life like that on earth.

Radar studies provide evidence that Venus rotates once each 225 earth days while orbiting the sun in the same time period. Thus, each day or night on Venus lasts about 112½ earth days, or half the planet's rotational period. Presumably, the Venusian clouds screen out most of the sunlight, keeping that hemisphere in twilight.

The long Venusian day and night would be expected to result in the side facing the sun becoming quite hot and the other becoming cold. Mariner, however, did not find any appreciable difference in temperature, so the dense atmosphere must circulate vast quantities of heat from the day to the night side.

Radar studies also suggest that Venus rotates backwards with respect to earth and other planets of the solar system, except Uranus and perhaps Pluto. Thus, on Venus, the sun rises in the west and sets in the east.[3]

91. The main idea of the first paragraph is that
    (1) man will eventually journey to the moon . . . . ( )
    (2) Mariner II has significantly increased man's knowledge ( )
    (3) Venus is 21,648 miles from earth . . . . ( )
    (4) Mariner II has proved Venus has earth-like qualities . . . . ( )

92. The main idea of the second paragraph is that
    (1) temperature on Venus rises to 800 degrees . . . . ( )
    (2) optical studies of temperature on Venus indicate extreme heat . . . . ( )
    (3) the beliefs concerning life on Venus must now be changed ( )
    (4) the high temperature on Venus would melt lead . . . . ( )

93. The NASA studies tend to show that
    (1) one hemisphere of Venus is always in twilight . . . . ( )
    (2) Venusian clouds are much like earth's . . . . ( )
    (3) the Venusian night is very cold in comparison to day . . . . ( )
    (4) a Venusian day is very brilliant . . . . ( )

94. The Mariner II probe and radar studies have shown that
(1) the atmosphere on Venus is similar to earth's atmosphere ( )
(2) a day on Venus is about one-third as long as a year on earth .... ( )
(3) night on Venus lasts longer than day .... ( )
(4) vegetation on Venus is similar to our tropical rainforest ( )

95. Radar studies suggest that probably
(1) the direction of sunrise on Venus is opposite from that on earth .... ( )
(2) all planets in the universe rotate from east to west ..... ( )
(3) Pluto's rotation is the same as the earth's .... ( )
(4) the length of day on the planets of Venus and Pluto is the same .... ( )

THE MACHINE AGE

During the Machine Age the economic and social life of America was transformed. The power supplied by man's own muscle or by that of his domestic animals was supplemented by that of falling water, steam, electricity, and gasoline. The use of this power aided in the production of great quantities of goods and in a degree, was responsible for the unequal distribution of wealth. Manufacturing plants grew in size and were consolidated into larger industries. Trusts were organized; and, because of their tendency to monopolize the industries, the government found it necessary to attempt regulation. This control was exercised especially during the administrations of Theodore Roosevelt, William H. Taft, Woodrow Wilson, and Franklin D. Roosevelt.

THEODORE ROOSEVELT AND BIG BUSINESS. Theodore Roosevelt, in 1901, in his first message to Congress, turned his attention to this important problem, and pointed out that while industrial concentration could not be prevented, industry must submit to regulation. He maintained that a distinction must be made between business which engaged in fair practices and that which resorted to illegal methods. He proposed that Congress provide for supervision and regulation of corporations doing interstate business. As a result of his proposal, Congress passed an act which created the Department of Commerce and Labor. This act also provided for a Bureau of Corporations, headed by a commissioner who was authorized to make investigations of corporations engaged in interstate and foreign commerce, and to supply useful information concerning them.

NORTHERN SECURITIES CASE. President Theodore Roosevelt, in accordance with his policy of regulation and control, instructed his Attorney General to bring suit against the Northern Securities Company, a holding company, capitalized at $400,000,000, organized by James J. Hill, J. P. Morgan, and E. H. Harriman, for the purpose of controlling the stock of the Northern Pacific, and Great Northern, and the Chicago, Burlington and Quincy railroads. The court rendered a decision against the Northern Securities Company and ordered the corporation dissolved. This verdict

(1904) was a great victory for the government, for by this action against a large corporation, Roosevelt demonstrated that no group is more powerful than the government. Other suits were instituted by Roosevelt, and before his administration closed, no less than forty-four anti-trust suits were under way.[4]

96. The main idea of the first paragraph is that
    (1) during the Machine Age the economic and social life of America was speeded up ( )
    (2) the consolidation of manufacturing plants into larger industries transformed the economic and social life of America ( )
    (3) during the Machine Age, sources of power supplementing the muscle of man and his domestic animals transformed industry in America ( )
    (4) during the Machine Age the use of various sources of power resulted in attempts to control power illegally ( )

97. The main idea of the second paragraph is that
    (1) Theodore Roosevelt pointed out that while industrial concentration could not be prevented, industry must submit to regulation ( )
    (2) Theodore Roosevelt maintained that a distinction should be made between businesses engaging in fair practices and those engaging in illegal methods ( )
    (3) the Bureau of Corporations, headed by a commissioner, was created to supply useful information concerning corporations ( )
    (4) as a result of Theodore Roosevelt's influence, Congress took steps to regulate the activities of corporations engaging in interstate and foreign commerce ( )

98. The court decision on the Northern Securities Company
    (1) showed the superiority of government power ( )
    (2) upheld the continuance of the corporation ( )
    (3) broke a foreign monopoly ( )
    (4) followed forty-four other anti-trust suits ( )

99. Monopolies were the end result of
    (1) man power ( )
    (2) economic life ( )
    (3) government regulation ( )
    (4) mass production ( )

100. A conclusion that can be drawn from this passage is that
    (1) the Machine Age has hurt man more than it has helped him ( )
    (2) Congress may act when the vital interests of the majority of people are endangered ( )
    (3) after a business has reached a certain size, it can no longer be trusted ( )
    (4) the courts were prejudiced against big business even before they heard the evidence ( )

DIAGNOSTIC READING TESTS
SURVEY SECTION: UPPER LEVEL
(From Grade 7 through College Freshman Year)

FORM D

By *The Committee on Diagnostic Reading Tests, Inc.:*
Frances Oralind Triggs, *Chairman;* Robert M. Bear, Dartmouth College;
George D. Spache, University of Florida; Agatha Townsend, Editor;
Arthur E. Traxler, Educational Records Bureau; Frederick L. Westover, University of Alabama.

PART 1: GENERAL READING

DIRECTIONS: This is a test of your skill in general reading. Read the short article in this test in the same way that you ordinarily read any easy, interesting stories or articles. Read as rapidly as you can and still understand what you read. When you finish reading, you will be asked to answer questions on the material you have read.

To start the test, everyone will read together the lines at the bottom of this page. The examiner will read *orally* and you should follow, reading *silently*. When we come to the last word on the page, the examiner will stop, and you will simply turn the page and keep right on reading.

When you finish reading you will find printed directions telling you what to do next. DO NOT READ ANY PART OF THE SELECTION MORE THAN ONCE.

If you have any questions about the directions, *ask them now;* if not, wait for the signal to turn to the next page.

ANTS

Have you ever noticed how many ants there are in this world? It is possible to find millions near your own home. They were on the earth long before the first man appeared. Dr. John Martin, a scientist who has studied ants, says that they have been here for fifty million years. He says that ants have an organized society made up of queens, workers, and drones. The workers are divided into policemen, guards, nurses and soldiers, so-called according to the type of work they do.

The queen ant is the ruler and the most important member of the ant hill. Her wedding day is an extremely important day for the queen, and the activities of that day are interesting to watch. The wedding takes place in the spring of the year on a warm sunshiny day. All of the queens and the father ants, called drones, leave their ant hills. For a while they stay on the ground. Then as if by some unseen signal, they spread their wings and fly into the air. Thousands of them are flying at once. Each queen then mates with a male ant or drone. They are not careful of the family of ants with which they mate. It is not certain just how the ants choose their mates, but a queen from one ant hill often mates with a drone from another hill.

Soon after mating, the queens come back to earth to look for a place to live. If they can, they find an old ant hill and take possession of it. If they are not lucky enough to find an old one, they set about building a new one. New hills are small, made up of only one room at first. The queen starts laying the first batch of eggs immediately, at intervals of about two minutes. The babies, when they hatch, are called larvae. The first larvae are fed by the queen herself. When the tiny workers are big enough, they work to make the hill larger so there will be enough room for the ants which will soon hatch.

Dr. Martin says that if you would cut an ant hill in half, you would see that it looks like an apartment house. Each room, itself, is like a home. There is a room for each member of the large family that lives in the ant hill. The queen lives in one of the many chambers of the underground part of the house. To get to her room, you would have to go down a long tunnel. Her room has many guards who see that no harm comes to her.

The queen is a very large ant. She has a big stomach where she keeps her eggs. Before she goes on her wedding journey she has wings, but when she returns, she bites them off. From then on she does nothing but lay eggs and more eggs. Some queen ants lay eggs each season for ten years. Think of how many eggs are laid in that time!

Worker ants carry the eggs laid by the queen, which are about the size of a pinhole, out of the royal room through the main tunnel, or hallway of the ant hill, to a room in which there are other new eggs. Later the eggs are taken from one egg room to another, and finally to the one which has the oldest eggs in it. This room is nearer the top of the ant hill. The eggs have to be kept warm and this room, being nearer the surface of the earth, is kept warmer largely by the heat of the sun.

It takes about two weeks for the eggs to hatch into larvae. After the ant hill is well-organized, these larvae are taken over by nurse workers who feed the baby ants honey-dew or ants' milk. The nurse workers get this milk from their "cows" which will be described later. The nurse takes the milk from the "cow" into her mouth, and puts her mouth close to the mouth of the baby ant, who gobbles up the food.

When the fast growing larvae are ready to spin their cocoons, they are taken into another room and buried in the sand. Here they change to ants.

In any colony of ants there are five different kinds of individuals: a few large-sized female ants, or queens; many male ants, or drones; and three sizes of worker ants. The smallest worker ants are the ones who build the ant hill and keep it clean. The middle-sized workers are the nurse ants. The large workers are the soldiers and guards. They act as watchmen, watching for enemy ants and keeping them out of the hill. They protect the rest of the ants who live in the hill when enemy armies come to rob the hill. They live in the rooms at the top of the hill so that they can guard its entrance.

The "cows" used by the ants to provide milk for the larvae are not ants. They are tiny plant lice called aphids. They eat the juice of the leaves and roots of plants. The ants value their cows very highly and even make homes for them. They collect the eggs of the cows and when they hatch, they feed them just as they do their own young. From the cows' room, the worker ants build tunnels to the roots of weeds, vegetables and trees. Here the cows live, sucking the sweet juices from the plants. When the ants want milk, they stroke the cows with their antennae, and the cows give the ants some of their milk.

After ants grow up, they eat a great variety of food. The workers go out after this food. When an ant finds food which he wants to take back to the ant hill, he lifts it if it is not too heavy. Sometimes he gets another ant to help him carry or drag it. When an ant gets back home after finding more food than he could carry in one trip, he passes the news on to other workers. As many as can leave the ant hill go out with him and carry the food home bit by bit.

Much of the food which the ants eat is liquid food. They suck juice from the outer shells of some animals, and then beetles and other insects which like these hard, outside shells eat them when the ants have sucked out what they want.

One variety of ant, called the leaf-eating ant, goes out on cloudy days and cuts off pieces of leaves with its jaws and carries them home. These ants chew the pieces of green leaves and put them into a dark room in the hill where the spores of tiny mushrooms are planted in them. They like to eat these mushrooms. These leaf-cutting ants often do great damage to orange groves.

Other ants live on the seeds of grasses. They grind these seeds up with their jaws into material which is like flour. They store this flour in their nests for future food.

There are also different kinds of ants. We have said that though they are different they live in the same ant hill. There are at least three thousand different species. For instance, there are large red ants which often make war upon the black ants. They start a fight by first sending a few soldiers on ahead to make plans for the battle. These come back home, gather up the rest of the army, and return to the enemy camp. The enemy ants circle the hill which they are attacking. A few go down into the tunnel and take some of the young of the black ants which live there. The ants who live in the hill become afraid and they gather up their eggs and try to run away from their home. They try to break through the enemy line of red ants that surrounds it. They are not as big or as strong as the red ants and are loaded down with the eggs; so it is hard for them to fight. When the red ants win, they take the larvae of the black ants back to their own hill where they eat them. The black ants which are taken prisoners are made slaves. They do all of the work for their red masters. In fact, the red ants sometimes become so lazy that if they lose their slaves they die, because they are too lazy to work for themselves.

Some red ants are good farmers. They build rooms in their houses for gardens into which they carry leaves which are kept damp. The tiny little plants which grow on the leaves are used for food. Many of these gardener ants live in Texas and South America.

Other ants make rooms called granaries in which they store seeds. They build very good roads leading to a farmer's grain, and go back and forth and back and forth over them carrying kernels of grain and storing them for food in their own granaries.

In hot, wet countries there are many white ants, called termites, which feed on anything made of wood. Their houses are different from common ant hills, some being very large mounds; others are hard towers sometimes ten to eighteen feet high, and still others look like toadstools. These ants eat through wood, destroying houses; they eat the pages of books which are made of wood. It is very hard to protect wooden things from these ants. 182 Many buildings in the tropics are now made of stone or concrete so that the ants cannot eat their way in.

Ants have a method of communicating with each other. They do this in part by means of their antennae. These antennae are located on the face, above the mouth and between the eyes which may be sightless. They are thread-like rods, jointed like elbows, and attached to the face as our shoulders are to our body.

The popular name for the antennae is feelers. This name is a fitting one, for when ants are awake and in action, these organs are kept revolving continually in front of them and on either side of their path. They touch the various objects met and sweep the foreground as though to feel the way. That, in fact, is their chief use: they are to feel with.

If you observe ants for any length of time at all, you will see how constantly they cross their antennae with those of other ants, obviously as a means of communication. They distinguish foes from friends by reaching out their antennae in challenge. They receive in the same way, a response from those ants they meet. Two ants, foraging for food, always cross antennae when they meet. Going or coming, leaving home or returning, on the city premises or afield, it is always the same. The observer sees at once from the ants' reactions to each other that everything is all right, and they pass. Whether the message is conveyed by odor, by contact, or by both, Dr. Martin and other scientists do not tell us, but that they do communicate is readily apparent.

Turn to the next page without waiting for further directions.

Read the directions.

Mark the answers according to the directions.

QUESTIONS ON *Ants*

DIRECTIONS: Read the statement. Choose the answer that agrees with the test selection you have just read, even if you have a different opinion about it.

IF THE ANSWERS ARE TO BE RECORDED ON SEPARATE ANSWER SHEETS, make a *heavy, black, glossy mark* on the answer sheet under the number that agrees with the number of the answer you chose. Use the special pencil which your examiner gave you. Study the following example:

Sample: The color of grass is

(1) green (2) blue (3) purple (4) orange

1	2	3	4
▮	⁞	⁞	⁞

Notice the space under number one has been marked because the correct answer, green, has that number.

Do NOT go back to the reading selection.

1. The ants have a society similar to

   (1) a republic .... ( )
   (2) a democracy .... ( )
   (3) a monarchy .... ( )
   (4) an army .... ( )

2. According to the story, the wedding of ants may take place in

   (1) January .... ( )
   (2) October .... ( )
   (3) April .... ( )
   (4) July .... ( )

3. The number of eggs that a queen lays in her lifetime is

   (1) between five hundred and a thousand .... ( )
   (2) one every two weeks .... ( )
   (3) less than five hundred .... ( )
   (4) more than one million .... ( )

4. Before the queen ant marries

   (1) she bites off her wings .... ( )
   (2) she fights the drones .... ( )
   (3) she flies .... ( )
   (4) she sleeps .... ( )

5. New ant hills consist of

   (1) one room .... ( )
   (2) many tunnels .... ( )
   (3) two rooms and a tunnel .... ( )
   (4) many rooms .... ( )

6. If you cut an ant hill in half, you will probably find eggs in

(1) the top and in the bottom............( )
(2) the bottom only............( )
(3) the middle and in the top............( )
(4) the middle and in the bottom............( )

7. The amount of time needed for eggs to hatch into larvae is

(1) one day............( )
(2) two minutes............( )
(3) two weeks............( )
(4) some hours............( )

8. The queen of the ants

(1) moves the eggs from room to room............( )
(2) kills the drone............( )
(3) spins the cocoons............( )
(4) feeds the first baby ants............( )

9. The "cows" used by ants are

(1) cows............( )
(2) plants............( )
(3) not ants............( )
(4) baby ants............( )

10. White ants are

(1) beneficial to man............( )
(2) harmful to man............( )
(3) dangerous to red ants............( )
(4) helpful to cow ants............( )

11. Termites are

(1) black ants............( )
(2) red ants............( )
(3) farmer ants............( )
(4) white ants............( )

12. When ants fight

(1) they fight until they are all dead............( )
(2) they eat each other............( )
(3) they make peace when the queen is taken prisoner............( )
(4) they take prisoners that are made slaves............( )

13. Scientists have found that ants probably convey their messages

(1) by odor only............( )
(2) in no special way............( )
(3) by contact and odor............( )
(4) by a special language............( )

14. The story says that on their wedding day
    (1) queen ants do not fly..( )
    (2) queen ants fly one after another........................( )
    (3) queen ants fly by pairs, each queen with her drone..........( )
    (4) all queen ants fly at the same time........................( )

15. After the queen ants have mated they will build a new ant hill
    (1) always, no matter how many old ones are available..........( )
    (2) only if they cannot find an old one........................( )
    (3) if the drone has not selected one before hand..............( )
    (4) if the old one is full of eggs.............................( )

16. The "cows" used by ants eat
    (1) juice of leaves of plants..................................( )
    (2) honey dew..( )
    (3) milk...( )
    (4) specially prepared food....................................( )

17. The leaf-cutting ants may be compared to our
    (1) physicians...( )
    (2) carpenters...( )
    (3) butchers...( )
    (4) farmers..( )

18. The main idea of the story is
    (1) to show that ants have an organized society like bees......( )
    (2) to show children how ant hills are made....................( )
    (3) to show that ants help the farmers.........................( )
    (4) to show how ants live......................................( )

19. From reading the story we can conclude that
    (1) the government is administered by the soldier ants........( )
    (2) ants have a democratic form of government..................( )
    (3) ants have an organized society.............................( )
    (4) ants are more helpful than is generally believed...........( )

20. If you were to write a story about the ants, which of the following would you leave out because we know least about it?
    (1) food and living conditions of ants.........................( )
    (2) kinds of ants...( )
    (3) governmental organization.................................( )
    (4) special language of ants...................................( )

PART 3: COMPREHENSION

DIRECTIONS: This test consists of a series of passages on different topics. Each passage is followed by several questions. These questions concern the main ideas in the passages, important facts which are given, the order of events, and conclusions you can reasonably draw from the ideas in the passages. You are to *read each passage and then try to answer the questions which follow it.* If you do not remember the answer to a question, you may reread the passage to find it, but you will be able to complete the test more rapidly if you read carefully enough to answer the questions at once.

IF THE ANSWERS ARE TO BE RECORDED ON SEPARATE ANSWER SHEETS, you are to choose the one of the four possible answers to each question that is correct, note its number, and blacken the position corresponding to the number on the answer sheet with the special pencil which your examiner gave you. Make *heavy, black, glossy marks.* Study the following example:

Sample: The main idea of paragraph 1 in *Directions* is that:

(1) this is a test of vocabulary
(2) you are to read passages and answer questions on their meanings
(3) you are to read each passage more than once
(4) this is a test to see how rapidly you can read

1	2	3	4
⁞	▮	⁞	⁞

Notice that the space under number two has been marked because the correct answer, "you are to read passages and answer questions on their meanings," has that number.

Your first answer is to be recorded on space 81 of the answer sheet even if you did not finish all of the questions in the vocabulary test.

If you have any questions about the directions, *ask them now;* if not, wait for the signal to turn to the next page.

The home is greatly emphasized in this treatment of our democratic society because of its obviously vital importance. The home has many functions and nearly all of them depend upon housing. To people in the upper third of income distribution housing is simply a problem of choice and careful financing. For them home ownership is attractive and desirable.

However, for families with low incomes, housing is a serious and, sometimes, an insurmountable problem. With a budget that allows not more than one-fourth of the income for shelter, it frequently is impossible to secure housing that meets the minimum standards of space and health. For these people there is too often no place to go but slums which have an unwholesome effect not only upon the people who live in them, but on the community as a whole. Since, as has been demonstrated, slum-clearance is not usually a paying proposition, little help can be expected from private enterprise. It then becomes a question of whether to approve government subsidies, either in the form of grants or tax exemption, to correct the problem. Many kinds of experiments have been carried on in this country and abroad, and from a continuing study of them, we may get the data for our answer.[1]

81. The main idea of the whole passage is that
    - (1) housing of one-third of our families in slum areas is a community problem.................................( )
    - (2) while one-third of our families are well-off and attractively housed, most of the rest live in unwholesome surroundings( )
    - (3) [illegible] which are improperly housed present a problem which counterbalances the attractive housing of higher income groups.................................( )
    - (4) because of the contribution of the home in democratic society, better housing of its people who now live in slums is of primary importance.................................( )

82. Private enterprise is not much interested in slum clearance because of
    - (1) high costs.................................( )
    - (2) small profits.................................( )
    - (3) community indifference.................................( )
    - (4) reluctance to experiment.................................( )

83. One means of government aid might be

(1) careful financing .... ( )
(2) loans .... ( )
(3) tax exemption .... ( )
(4) private enterprise .... ( )

84. A conclusion that can be drawn from this passage is that

(1) slum clearance aids people outside the slum area as well as those in it .... ( )
(2) a community owes something to the people in the lower income groups .... ( )
(3) disease and crime developed in the slums remain within the boundaries of the slums .... ( )
(4) people in the upper third of income distribution are there because they made wiser choices of places to live .... ( )

85. Slums grow up because

(1) for most people home ownership is not attractive and desirable .... ( )
(2) most of the houses meet minimum standards of space and health .... ( )
(3) many people do not have sufficient income for adequate housing .... ( )
(4) good housing is more profitable to private enterprise .... ( )

THE GREEKS BUILD THE PARTHENON

The noblest of all the temples built to crown the Acropolis was the white marble Parthenon. This beautiful building was created by Ictinus, the architect, and Phidias, the sculptor. A frieze or band of sculpture ran around the building just above the columns. This frieze, which showed the people of Athens marching in a procession, was delicately tinted in gold, blue, and red.

Many magnificent temples and buildings have been erected since the Parthenon was built about twenty-four hundred years ago, but none has ever surpassed it for sheer beauty and grace. Our modern architects have discovered some of the secrets which made the Parthenon so perfect in appearance. They found, for example, that the columns, instead of being straight up and down, or perpendicular, slanted inward ever so slightly. Although this could never have been discovered without the most careful measurements, it helped to give the temple its appearance of harmonious perfection.

Another example of the perfection of Greek architecture is to be seen in the manner in which the columns were constructed. Have you ever noticed that two parallel lines seem to bend inwardly toward each other?

Scientists have long known of this effect. The Greek architects realized this peculiarity, for they chiseled their columns with a greater diameter in the middle than at either end. The curved line which this construction produced made the columns appear straight to the human eye. It is by seeing the perfection of such details that we realize what skillful workmen the Greeks had come to be.[7]

86. The main idea of the second paragraph is that
    - (1) our modern architects have discovered some secrets which made the Parthenon look perfect....................( )
    - (2) the columns of the Parthenon slant inward very slightly..( )
    - (3) one secret of the construction of the Parthenon is the slight inward slant of its columns....................( )
    - (4) the Parthenon was built 2400 years ago before many other temples and buildings........................( )

87. The main idea of the third paragraph is that
    - (1) the skill of Greek workmen is shown in the perfection of details evidenced by their treatment of columns.........( )
    - (2) another example of the perfection of Greek architecture is the straight line of the columns....................( )
    - (3) the parallel lines formed by the columns is another example of Greek workmanship........................( )
    - (4) the straight lines of the columns appear graceful to the human eye thus showing the skill of the Greek workmen..( )

88. The frieze above the columns showed
    - (1) a group of musicians..................................( )
    - (2) the people of Athens marching in a procession..........( )
    - (3) the people of Athens running around the building.......( )
    - (4) the city of Athens in blue, gold, and red...............( )

89. We may conclude from the first paragraph that the Parthenon was used
    - (1) for a school of architecture..........................( )
    - (2) for religious ceremonics..............................( )
    - (3) as a school of art....................................( )
    - (4) as Phidias' academy of sculpture......................( )

90. The Parthenon has never been surpassed in beauty and grace because the Greeks
    - (1) knew certain secrets of architecture..................( )
    - (2) used better materials than later workers...............( )
    - (3) were more skillful in the arts and sciences.............( )
    - (4) took more time to plan than other architects...........( )

WHAT THE WIND DOES TO THE ROCKS

Have you ever been caught in a severe windstorm? Whether you have or not, you have no doubt seen pictures of trees and buildings destroyed by the wind. Perhaps you have seen a strong gale raising clouds of dust from a dry road or field. If you have been to the desert or the seashore, you may have seen sand dunes. Dunes of this sort are the work of the wind.

The force of rapidly moving air may be illustrated by an observation which is familiar to city dwellers. A stone or brick building becomes dirty from the soot and dust in the city air, and is cleaned by a process which is known as sand-blasting. Air is compressed by an air pump and allowed to escape through the nozzle of a hose. Sand is carried in the rapidly moving air and is blown against the face of the building. The force of the sand blast quickly cuts off the dirty surface of the stone.

When sand is blown by the wind against a rocky surface, it cuts the rock in the same way. More sand is carried along near the surface of the earth than is carried higher up. For this reason rocks are worn away fastest near the ground and tend to take the shape of huge mushrooms.

Exercise: Obtain a rock specimen that has been exposed to the weather. Break it with a hammer and compare the fresh surface with the surface that has been exposed to the weather. Are there any signs that this specimen has been or is being attacked by any of the forces you have studied?[3]

91. The main idea of the whole pasage is that

    (1) air and sand are used to clean buildings............... ( )
    (2) the wind carries more sand near the earth than higher up. ( )
    (3) rock broken with a hammer shows the effect of wind on rock... ( )
    (4) wind wears away rock by hurling small particles against it ( )

92. Sand dunes are made by the action of

    (1) the sea.. ( )
    (2) the wind...................................... ( )
    (3) the rock....................................... ( )
    (4) the desert..................................... ( )

93. Sand-blasting is a

    (1) stone-cleansing process............................ ( )
    (2) air-cleansing process.............................. ( )
    (3) sand-cleansing process............................. ( )
    (4) desert storm....................................... ( )

94. The newly exposed surface of a weathered rock broken by a hammer has usually been

(1) cracked by extremes of temperature.......................(   )
(2) smoothed by the action of the wind......................(   )
(3) worn by the action of the rain..........................(   )
(4) unmarked by wind, rain, or temperature..................(   )

95. A conclusion which may be drawn from this paragraph is

(1) the wind does not change hard rocks.....................(   )
(2) the wind is a powerful force in changing the surface of the earth..(   )
(3) the action of the rain is more evident than the action of the wind..(   )
(4) the brick buildings in a city are of a more durable construction...(   )

POPULATION EXPLOSION

Every time the second hand on your clock jumps forward, about 90 babies are born. This happens every second, day and night, week in and week out, until there are now almost three billion people in the world. This is about twice as many inhabitants as there were only sixty short years ago. The experts at the United Nations tell us that in the next forty years the population will more than double again, skyrocketing to an amazing six billion or more people.

In the United States, a baby is born every seven seconds and if this present rate continues, our population of 180 million in 1960 will explode to an over-whelming, land-bulging, seam-bursting, 230 million people by 1975. Over-crowding in the large centers of population will be an increasingly severe problem.

Bad as these conditions are in the United States, the pressure is most extreme, and the increase of population greatest, in the underdeveloped nations of the world. The United Nations reports that the explosion has been largest in Africa, Asia, and Latin America. On these continents, most of the countries are agricultural with little industrial development to provide jobs and money for food and living. These are the nations least able to help themselves, yet with the largest spiraling birth rates.

These underdeveloped countries used to need a high birth rate to just maintain the population since four out of five babies died. With decreased infant mortality, births still remain high, because large families are needed in agriculture and food production.

Health programs, clinics, technological advances, scientific discoveries of new insecticides for the control of disease bearing and crop destroying insects, medical advances in techniques of immunization, vaccinations, antibiotics and new medicines, all have combined to cut the death rate and increase the life expectancy of the world's people. The total result of these things is the problem of over-population.[4]

96. The main idea of the first paragraph is that
    (1) population is increasing rapidly ( )
    (2) some one is born every second ( )
    (3) the world population is expected to grow to three billion people in 40 years ( )
    (4) there are too many people in the U.S. ( )

97. The main idea of the third paragraph is that
    (1) industrial development is necessary to provide jobs and food ( )
    (2) Latin American countries are underdeveloped ( )
    (3) Africa and Asia are underdeveloped continents ( )
    (4) the population grows fastest in the underdeveloped nations ( )

98. The author predicts that the population of the United States in 1975 will be
    (1) about 230,000,000 ( )
    (2) about three billion people ( )
    (3) 180,000,000 ( )
    (4) fifty per cent greater than today ( )

99. In general it may be said that a high birth rate
    (1) causes a problem ( )
    (2) combats infant mortality ( )
    (3) is not needed to maintain the population in underdeveloped countries ( )
    (4) provides skilled labor for industry ( )

100. The population explosion has been caused by
    (1) the increased infant mortality ( )
    (2) scientific discoveries made in the 19th century ( )
    (3) the drop in the death rate due to technological advance ( )
    (4) industrial development in Latin America and Africa ( )

APPENDIX E

DESIGN II: COMPREHENSION TEACHER-DIRECTED ACTIVITIES--MAIN IDEA IN SELECTIONS (Pilot Edition)* AND CORRESPONDING TRANSPARENCY MASTERS USED IN THE SKILL-BASED INSTRUCTION TREATMENT GROUP CLASSROOMS

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Comprehension: Selections

Skill 15 - Topic with Organizer

Objective: The learner identifies the topic of a passage that includes a stated organizer and relevant details.

Interpretation of Objective:

1. The topic of a selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of a paragraph.

Lesson Format

Lesson I Procedures:

A. Explain to the students that the topic of a selection or paragraph is what the whole selection is about. Be sure to emphasize that the student needs to differentiate between the topic, which is the most important and inclusive idea in the passage, and the supporting details, which are subparts of the larger topic. The example paragraphs should be written on the chalkboard or a transparency for overhead projection or copied for the students to read.

B. Show Example 1.

Example 1 The big parade came down the street. The high school band marched past first. Then came the clowns. After the clowns there were ten old cars, each driven by a man or woman in an old-fashioned costume. Next were the beautiful floats, each decorated in a different theme. Last of all came the mayor in a red convertible.

Have a student read the paragraph aloud. Then have a student identify the topic of the paragraph (a parade). Ask why each of the following is not the topic: the clowns, the floats, the mayor. Ask the students to tell where the topic was stated in the paragraph (the first sentence).

C. Show Example 2.

Example 2 John's eyes were red and the tip of his nose was chapped. He sneezed often and his ears were all clogged. In spite of over ten hours' sleep last night, John was tired, sore, and grouchy. How he hated this cold.

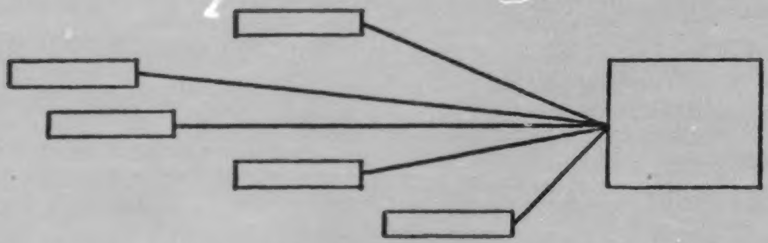
Have a student read the example paragraph aloud and ask the students to identify the topic (John's cold). Ask why the topic is not John's red eyes. Ask the students where the topic was stated in the paragraph (the last sentence).

D. Show Example 3.

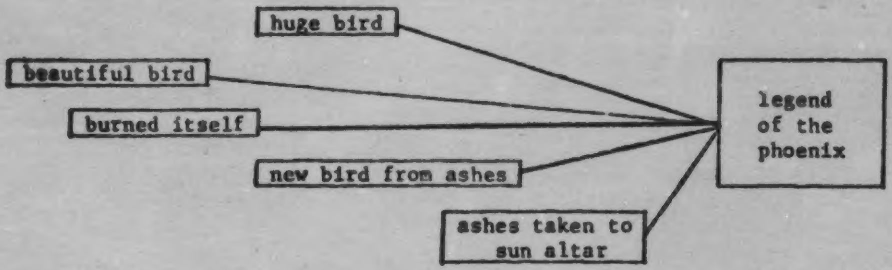
Example 3 One of the most interesting myths in the world is the legend of the phoenix. The phoenix was supposed to have been a huge bird. It was very beautiful. According to the legend the phoenix burned itself to death when it was 500 years old. From the ashes arose another phoenix. This new bird took the ashes of the dead phoenix to the altar of the sun.

Have a student read the example paragraph aloud. Then draw Diagram A on the Board.

Diagram A



Ask the students to identify the topic of the paragraph. Remind the students to be careful not to choose an interesting detail as the topic. Write the topic in the large square. Then ask the students to supply the interesting details from the paragraph that may combine to tell about the topic. The completed diagram might look like this:



F. Use an appropriate skill reinforcement activity here.

Lesson II Procedures:

A. Remind the students that the topic of a selection or paragraph is what the whole selection is about. Emphasize the concept that supportive details combine to become the topic.

B. Give each student a copy of the paragraphs on Spirit Master 1 (or show Transparency 1). Ask the students to read the first paragraph and write the topic on the line to the left of that paragraph. (If the transparency is used, have the topic for each paragraph written on the board.) Have the students do this for each paragraph in the selection. Then ask the students to identify the topic of the whole selection, based on the topics they have identified for each paragraph. The students should write the main topic on the line at the top of the page, where it will serve as the title for the whole selection. (Answers: Paragraph 1 - glittering generalities; 2 - name-calling; 3 - plain folks; overall - propaganda techniques.)

C. Use an appropriate skill reinforcement activity here.

Note: Teachers should be aware of any students who still have difficulties with this skill. Students' oral class participation and in class written worksheet evaluation can contribute to this informal teacher assessment. Provide additional activities related to this skill for those students prior to any formal assessment.

__Use of Criterion-Referenced Tests__: Assess student mastery with Level II Criterion-Referenced Test 15, Topic with Organizer, upon completion of the instructional program for Skill 15. This test may also be used as a pretest to determine if a student needs instruction on Topic with Organizer. An 80% level of success on the test is recommended. as demonstrating mastery.

Topic with Organizer

(original for spirit master 1 or transparency)

____

One favorite propaganda technique is the glittering generality. In this technique the speaker or writer makes a broad statement that sounds wonderful. But the speaker does not back up this statement with facts. For example, many politicians promise to save money in government, but too often no specific details are given telling how they will accomplish this goal.

____

Have you ever heard a person with different views called a hippie or a communist? People who own property in the inner city may be called slum landlords by their enemies even if they take good care of their property. A public official who enjoys dancing or parties may be labelled a playboy. The propaganda technique of putting a catchy but often unfair label on a person is termed namecalling.

____

The plain folks approach is another propaganda technique. In the plain folks approach, candidates for office may try to appear to be "just regular people." They emphasize that they are just like everyone else, that they drive on old car, that they like to watch baseball on television, and that they are burdened by taxes. The candidates hope that this approach will make people vote for them.

____

Comprehension: Selections

Skill 16 - Topic without Organizer

Objective: The learner identifies the topic of a passage that includes only relevant details but no stated organizer.

Interpretation of Objective:

1. The topic of a selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always explicitly stated.

Lesson Format

Lesson I Procedures:

A. Remind the students that the topic of a selection or paragraph is what the whole selection is about. Review the concept that supportive details combine to make up the topic.

B. Introduce the concept that the topic is not always explicitly stated. The example paragraphs should be written on the chalkboard or on a transparency for overhead projection or should be copied for students to read.

C. Show Example 1

Example 1 Matt Little is 6 feet 3 inches tall. He has bright red hair and friendly blue eyes. When Matt has been in the sun too long, his face and arms become dotted with freckles. Matt has enormous hands and feet and he has to send away for special shoes. He has a jagged scar on the back of one hand. An accident with an axe almost cost Matt his hand five years ago.

Have a student read the paragraph aloud. Ask the students what they think the topic of the paragraph is (Matt Little). Ask if that topic was stated anywhere in the passage. Ask why Matt's large hands were not the topic.

D. Show Example 2

Example 2 Keeping your thermostat set at 68° in the winter is one way to save energy around the home. Another way is to use good insulation and proper weather-stripping around doors. Storm windows and doors cut down on energy losses. When driving you can save energy by staying below 55 m.p.h. and avoiding quick starts. Take public transportation or walk whenever possible.

Have a student read example paragraph 2 aloud and ask the students to identify the topic (saving energy). Ask why the topic is not using public transportation.

E. Show Example 3

Example 3 Cut an onion in half and push a clean pen deep into it. Use an old-fashioned pen with a point, not a ball-point pen. Crush some of the inside of the onion with the pen and use this juice to write a secret message. The writing will disappear as soon as the juice dries. To read the message, hold the paper over a candle flame. The heat from the flame will make the writing reappear.

Have a student read the example paragraph aloud. Then draw Diagram A on the board.

Diagram A

____

+______________________________

+______________________________

+______________________________

+______________________________

+______________________________

+______________________________

____

topic = __________________________________

Ask the students to identify the topic of the paragraph. Write the topic at the bottom of the equation in Diagram A. Then ask the students to supply the steps described in the paragraph that add up to make the topic. The completed diagram might look like this:

Diagram A

cut onion
+push pen into it
+crush inside to make juice
+write with juice
+writing gone when juice is dry
+hold paper over flame
+writing reappears when heated

---

topic = writing with onion juice

F. Use appropriate skill reinforcement activity here.

Lesson II Procedures:

A. Remind the students that the topic of a selection or paragraph is what the whole selection is about. Review the concept that supportive details combine to make up the topic. Also review the idea that the topic is not always explicitly stated.

B. Give each student a copy of the paragraphs on Spirit Master 1 (or show Transparency 1). Ask the students to read the first paragraph and write the topic on the line to the left of that paragraph. (If the transparency is used, have the topic for each paragraph written on the board.) Have the students do this for each paragraph in the selection. Then ask the students to identify the topic of the whole selection, based on the topics they have identified for each paragraph. The students are to write this main topic on the line at the top of the page where it will serve as the title for the whole selection. Discuss the answers.

(Answers: paragraph 1 - what polar bears look like; paragraph 2 - polar bears are excellent swimmers; paragraph 3 - an enemy of the polar bear, overall - Polar Bears.)

C. Use an appropriate skill reinforcement activity here.

__Note__: Teachers should be aware of any students who still have difficulties with this skill. Students' oral class participation and in class written worksheet evaluation can contribute to this informal teacher assessment. Provide additional activities related to this skill for those students prior to any formal assessment.

__Use of Criterion-Referenced Tests__: Assess student mastery with Level II Criterion-Referenced Test 16, Topic without Organizer, upon completion of the instructional program for Skill 16. This test may be used as a pretest to determine if a student needs instruction on Topic without Organizer. An 80% level of success on the test is recommended as demonstrating mastery.

Topic without Organizer

(Original for spirit master 1 or transparency)

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____

Adult polar bears are about nine feet long from nose to tail. They are pure white except for their noses, lips, claws, and eyes. These are black. The polar bears have no trouble blending into their surroundings, the arctic snow and ice.

____

Polar bears are quite at home in the water. These powerful swimmers can cover up to thirty-miles in the ocean in one stretch. They like to eat fish and seals that they catch. Even on land the polar bear is graceful and swift.

____

When they are in the water, polar bears are ever watchful for killer whales. These fierce water animals have fang-like teeth that would make a quick end to a swimming polar bear.

Comprehension: Selections

Skill 17 - Main Idea with Organizer

Objective: The learner identifies the main idea of a passage that includes a stated organizer and both relevant and irrelevant details.

Interpretation of Objective:

1. The main idea of a selection is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence of the paragraph.

Lesson Format

Lesson I Procedures:

A. Explain to the students that the main idea of a selection is more precise than the topic. It is a complete statement that summarizes what the whole selection or paragraph is about. Mention that the main idea is often stated in the first or last sentence in a paragraph and suggest that students may survey a paragraph by reading the first and last sentences first. The example paragraphs should be written on the chalkboard or a transparency for overhead projection or copied for the students to read.

B. Show Example 1

Example 1 There are many requirements an immigrant must meet before applying for citizenship in the United States. The immigrant must be at least eighteen years old and must have been admitted into the United States in order to live there permanently. The immigrant must have lived in the United States for at least five years and must have lived for six months in the state from which the application is made. The applicant must be of good character and must believe in the Constitution of the United States.

Have a student read aloud only the first and last sentences. Then have another student read the entire paragraph. Ask the students to identify the one sentence that tells the main idea of the paragraph (There are many requirements an immigrant must meet before applying for citizenship in the United States.) Ask the students to tell where this sentence is found in the paragraph (the first sentence). Then ask why "the immigrant must be at least eighteen years old" is not the main idea.

Write the main idea sentence on the board. Under this sentence have individual students write the six requirements an immigrant must meet. Help the students to note that the requirements are all details that are added together to make up the main idea.

C. Show Example 2

Example 2 Mike Carlson, driving a red Ford with Number 23 on the side, tried to pass Bill Mupps in the inside on the last straight stretch. Mupps edged over to prevent Carlson from passing. The bumper of Mupps' white Chevy struck the front fender of Number 23. Carlson was unable to control his car and he ran off into the grass. Mupps went into a skid, spun around, and hit the outside wall. With both Mupps and Carlson out of the race, Sam Rickles in Number 37 won easily. The last 30 seconds of the race were certainly very exciting.

Have a student read the first and last sentences aloud. Then have another student read the entire paragraph. Ask the students to identify the one sentence that summarizes what the whole paragraph is about. (The last 30 seconds of the race were certainly very exciting.) Ask where that sentence is found in the paragraph (at the end).

D. Use an appropriate skill reinforcement activity here.

Lesson II Procedures:

A. Review the concepts listed under Interpretation of Objective.

B. Give each student a copy of the paragraphs on Spirit Master 1 or show Transparency 1. Ask the students to read Paragraph 1 silently and then to identify the sentence which gives the main idea of the paragraph. Ask where the main idea sentence was found (beginning, middle, or end of the paragraph). Follow the same procedure for Paragraphs 2 and 3.

(Answers: Paragraph 1 - "Seasoning is the process of removing moisture from wood." beginning
Paragraph 2 - "This method is called kiln seasoning." end
Paragraph 3 - "Correctly seasoning timber is important for several reasons." beginning)

C. Explain to the students that an outline is a way of organizing information to show important ideas and the details which are part of these important ideas. Give each student a copy of the outline form on Spirit Master 2 or write the outline on the board as it is developed. Next to I, the students should write the main idea sentence for Paragraph 1. Underneath I, in A-E, the students should write the supporting details of the paragraph that add up to the main idea. Repeat this procedure for Paragraphs 2 and 3. Discuss answers as they are suggested. Emphasize that the main idea is the most important idea in a paragraph and the details are included as part of this main idea.

D. Use an appropriate skill reinforcement activity here.

Note: Teachers should be aware of any students who still have difficulties with this skill. Students' oral class participation and in class written worksheet evaluation can contribute to this informal teacher assessment. Provide additional activities related this this skill for those students prior to any formal assessment.

Use of Criterion-Referenced Tests: Assess student mastery with Level II Criterion-Referenced Test 17, Main Idea with Organizer, upon completion of the instructional program for Skill 17. This test may also be used as a pretest to determine if a student needs instruction on Main Idea with Organizer. An 80% level of success on the test is recommended as demonstrating mastery.

Main Idea With Organizer

(Original for Spirit Master 1)

Seasoning is the process of removing moisture from wood. One method of seasoning wood is the air or natural seasoning method. In this method the cut timber is stacked outside. The planks are arranged so that the moisture in the wood can evaporate away. The stack of wood is protected from rain and sun. The wood is also kept from touching the ground. The natural method of seasoning is usually quite slow.

Sometimes wood is placed in contact with low heat and a lot of steam. Slowly the heat is increased and the amount of steam is decreased. In this way the drying of the wood is carefully controlled. This method is also faster than the air method. This method is called kiln seasoning.

Correctly seasoning timber is important for several reasons. The wood will be less likely to decay. It will not be as likely to shrink or warp. Correctly seasoned wood is stronger. It is also lighter and easier to handle.

Spirit Master 2

I.

    A.
    B.
    C.
    D.
    E.

II.

    A.
    B.
    C.
    D.

III.

    A.
    B.
    C.
    D.

Comprehension: Selections

Skill 18 - Main Idea without Organizer

Objective: The learner identifies the main idea of a passage that includes both relevant and irrelevant details and does not include a stated organizer.

Interpretation of Objective:

1. The main idea of a selection is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always explicitly stated.

Lesson Format

Lesson I Procedures:

A. The example paragraphs should be written on the chalkboard or on a transparency for overhead projection or copied for students to read.

B. Show Example 1

Example 1 The trees were covered by the storm with an inch of glistening ice. They were bent almost double by the weight of the ice and many of the branches broke, crashing to the ground. The ice and the falling trees caused hundreds of electricity wires to be torn down. Thousands of homes were left without lights and, more importantly, without heat. Many families could not even cook because they had electric stoves.

Ask a student to read the first and last sentences aloud. Then ask another student to read the entire paragraph. Ask the students if they feel the main idea was stated in either the first or the last sentence. (The correct response is "no.") Explain that the main idea of a paragraph is not always written out in the paragraph.

Write the suggested main ideas for Paragraph 1 on the board next to the paragraph on the transparency. Ask a student to read the suggested main ideas aloud. Then ask another student to identify the main idea of the paragraph. Discuss why alternate choices are incorrect.

Sugggested Main Ideas for Paragraph 1.

a. Ice covered the trees and caused many of them to break.

b. An ice storm caused a great deal of damage.

c. Many homes were without electric power.

d. Hundreds of people could not even cook because they had lost their electricity.

(Answer: b)

C. Follow the same procedures for Example 2.

Example 2 The Eastern painted turtle is found east of the Appalachian Mountains. The largest painted turtle is the Western. It is often as large as eight or nine inches long. The Western painted turtle is found from the Prairie states to the Cascade region of Washington. The Central painted turtle is common in the Prairie region of the United States. The Southern member of this family has a light stripe down its back and is found in the Mississippi Valley. It is the smallest of the four kinds of painted turtles, averaging about five inches long.

Suggested Main Ideas for Paragraph 2

a. There are four kinds of painted turtles in the United States.

b. The Western painted turtle is found in the state of Washington.

c. The smallest painted turtle is the Southern.

d. East of the Appalachian Mountains Eastern painted turtles are found.

(Answer: a)

D. Follow the same procedures for Example 3.

Example 3 Not so long ago fishing crews went to sea in slow-moving boats made of wood. Now many fishing boats are made of metal. These boats are all equipped with powerful engines. Years ago if a boat was caught in a bad storm at sea it was often blown far off course. Now fishing crews have radar and radio to warn them of coming storms.

Suggested Main Ideas for Paragraph 3

a. The first boats were made of wood.

b. Radar and radio help keep fishing fleets safe.

c. Storms can be very dangerous at sea.

d. Fishing boats and equipment have changed over the years.

(Answer: d)

E. Use an appropriate skill reinforcement activity here.

Lesson II Procedures

A. Display Example 4 for the students.

Example 4 The Hovercraft is a low, flat vehicle. It has very powerful jet engines that point downward. These engines create a cushion of air that is strong enough to support a very heavy weight. The pilot of the Hovercraft can make the craft change directions by changing the position of the air jets. The Hovercraft moves with very little friction because it is completely surrounded by air. This means it can go quite fast without using much power.

Ask a student to read aloud the first and last sentence. Then ask another student to read the entire paragraph. Ask the students if they feel the main idea was stated in either the first or the last sentence. Ask if any sentence in the paragraph stated the main idea. (The correct response is "no.") Explain that the main idea of a paragraph or selection is not always written out. Sometimes the readers must identify the main idea themselves after examining the information in the paragraph. Ask the students to try to express the main idea of this paragraph in one well-formed sentence. Record the responses on the board and evaluate each response. Remind the students that the main idea is not just an interesting detail but it must combine the details into one central thought.

B. Follow the same procedures for Example 5.

Example 5 CHuck had heard that Mr. Wilkins needed someone to bag groceries on Saturdays. Chuck rushed over to ask Mr. Wilkins about the job, but someone else had already been hired. Disappointed, Chuck applied for a job at Howie's Hamburgers, but Howie said it would be at least a month before any jobs were available. Chuck also filled out an application at the auto supply store for a part-time job as a stock clerk. He even asked his friend Mort at the dog pound if there were any jobs available at the pound.

C. Use an appropriate skill reinforcement activity here.

Note: Teachers should be aware of any students who still have difficulties with this skill. Students' oral class participation and in class written worksheet evaluation can contribute to this informal teacher assessment. Provide additional activities related to this skill for those students prior to any formal assessment.

Use of Criterion-Referenced Tests: Assess student mastery with Level II Criterion-Referenced Test 18, Main Idea without Organizer, upon completion of the instructional program for Skill 18. This test may also be used as a pretest to determine if a student needs instruction on Main Idea without Organizer. An 80% level of success on the test is recommended as demonstrating mastery.

Skill 15
TDA, Lesson I
Transparency 1

Example 1

The big parade came down the street. The high school band marched past first. Then came the clowns. After the clowns there were ten old cars, each driven by a man or woman in an old-fashioned costume. Next were the beautiful floats, each decorated in a different theme. Last of all came the mayor in a red convertible.

Skill 15
TDA, Lesson I
Transparency 2

Example 2

John's eyes were red and the tip of his nose was chapped. He sneezed often and his ears were all clogged. In spite of over ten hours' sleep last night, John was tired, sore, and grouchy. How he hated this cold.

Skill 15
TDA, Lesson II
Transparency 1

Paragraph 1

One favorite propoganda technique is the glittering generality. In this technique the speaker or writer makes a broad statement that sounds wonderful. But the speaker does not back up this statement with facts. For example, many politcians promise to save money in government, but too often no specific details are given telling how they will accomplish this goal.

Skill 15
TDA, Lesson II
Transparency 2

Paragraph 2

Have you ever heard a person with different views called a hippie or a communist? People who own property in the inner city may be called slum landlords by their enemies even if they take good care of their property. A public official who enjoys dancing or parties may be labled a playboy. The propoganda technique of putting a catchy but often unfair label on a person is termed namecalling.

Skill 15
TDA, Lesson II
Transparency 3

Paragraph 3

The plain folks approach is another propoganda technique. In the plain folks approach, candidates for office may try to appear to be "just regular people." They emphasize that they are just like everyone else, that they drive an old car, that they like to watch baseball on television, and that they are burdened by taxes. The candidates hope that this approach will make people vote for them.

Skill 16
TDA, Lesson I
Transparency 1

Example 1

Matt Little is 6 feet 3 inches tall. He has bright red hair and friendly blue eyes. When Matt has been in the sun too long, his face and arms become dotted with freckles. Matt has enormous hands and feet and he has to send away for special shoes. He has a jagged scar on the back of one hand. An accident with an axe almost cost Matt his hand five years ago.

Skill 16
TDA, Lesson I
Transparency 2

Example 2

Keeping your thermostat set at 68 in the winter is one way to save energy around the home. Another way is to use good insulation and proper weather-stripping around doors. Storm windows and doors cut down on energy losses. When driving you can save energy by staying below 55 m.p.h. and avoiding quick starts. Take public transportation or walk whenever possible.

Skill 16
TDA, Lesson II
Transparency 3

Paragraph 3

When they are in the water, polar bears are ever watchful for killer whales. These fierce water animals have fang-like teeth that would make a quick end to a swimming polar bear.

Skill 17
TDA, Lesson I
Transparency 1

Example 1

There are many requirements an immigrant must meet before applying for citizenship in the United States. The immigrant must be at least eighteen years old and must have been admitted into the United States in order to live there permanently. The immigrant must have lived in the United States for at least five years and must have lived for six months in the state from which the application is made. The applicant must be of good character and must believe in the Constitution of the United States.

Skill 17
TDA, Lesson I
Transparency 2

Example 2

Mike Carlson, driving a red Ford with Number 23 on the side, tried to pass Bill Mupps in the inside on the last straight stretch. Mupps edged over to prevent Carlson from passing. The bumper of Mupps' white Chevy struck the front fender of Number 23. Carlson was unable to control his car and he ran off into the grass. Mupps went into a skid, spun around, and hit the outside wall. With both Mupps and Carlson out of the race, Sam Rickles in Number 37 won easily. The last 30 seconds of the race were certainly very exciting.

Skill 17
TDA, Lesson II
Transparency 1

Paragraph 1

Seasoning is the process of removing moisture from the wood. One method of seasoning wood is the air or natural seasoning method. In this method the cut timber is stacked outside. The planks are arranged so that the moisture in the wood can evaporate away. The stack of wood is protected from rain and sun. The wood is also kept. from touching the ground. The natural method of seasoning is usually quite slow.

Skill 17
TDA, Lesson II
Transparency 2

Paragraph 2

Sometimes wood is placed in contact with low heat and a lot of steam. Slowly the heat is increased and the amount of steam is decreased. In this way the drying of the wood is carefully controlled. This method is also faster than the air method. This method is called kiln seasoning.

Skill 17
TDA, Lesson 11
Transparency 3

Paragraph 3

Correctly seasoning timber is important for several reasons. The wood will be less likely to decay. It will not be as likely to shrink or warp. Correctly seasoned wood is stronger. It is also lighter and easier to handle.

Skill 18
TDA, Lesson I
Transparency 1

Example 1

The trees were covered by the storm with an inch of glistening ice. They were bent almost double by the weight of the ice and many of the branches broke, crashing to the ground. The ice and the falling trees caused hundreds of electricity wires to be torn down. Thousands of homes were left without lights and, more importantly, without heat. Many families could not even cook because they had electric stoves.

Skill 18
TDA, Lesson I
Transparency 2

Example 2

The Eastern painted turtle is found east of the Appalachian Mountains. The largest painted turtle is the Western. It is often as large as eight or nine inches long. The Western painted turtle is found from the Prairie states to the Cascade region of Washington. The Central painted turtle is common in the Prairie region of the United States. The Southern member of this family has a light stripe down its back and is found in the Mississippi Valley. It is the smallest of the four kinds of painted turtles, averaging about five inches long.

Skill 18
TDA, Lesson 1
Transparency 3

Example 3

Not so long ago fishing crews went to sea in slow-moving boats made of wood. Now many fishing boats are made of metal. These boats are all equipped with powerful engines. Years if a boat was caught in a bad storm at sea it was often blown far off course. Now fishing crews have radar and radio to warn them of coming storms.

Skill 18
TDA, Lesson 11
Transparency 1

Example 4

The Hovercraft is a low, flat vehicle. It has very powerful jet engines that point downward. These engines create a cushion of air that is strong enough to support a very heavy weight. The pilot of the Hovercraft can make the craft change directions by changing the position of the air jets. The Hovercraft moves with very little friction because it is completely surrounded by air. This means it can go quite fast without using much power.

Skill 18
TDA, Lesson II
Transparency 2

Example 5

Chuck had heard that Mr. Wilkins needed someone to bag groceries on Saturdays. Chuck rushed over to ask Mr. Wilkins about the job, but someone else had already been hired. Disappointed, Chuck applied for a job at Howie's Hamburgers, but Howie said it would be at least a month before any jobs were available. Chuck also filled out an application at the auto supply store for a part-time job as a stock clerk. He even asked his friend Mort at the dog pound if there were any jobs available at the pound.

APPENDIX F

DESIGN II: COMPREHENSION LEARNER-FOCUSED ACTIVITIES--MAIN IDEA IN SELECTIONS (Pilot Edition)* AND CORRESPONDING ANSWER SHEET TRANSPARENCY MASTERS USED IN THE SKILL-BASED INSTRUCTION TREATMENT GROUP CLASSROOMS

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Skill 15
LFA, Lesson IA
Sheet 1

Purpose

The following exercise is designed for you to practice identifying the topic of a paragraph that is stated directly; and to separate the topic from supporting details.

Remember:

1. The topic of a paragraph is what the whole paragraph is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of the paragraph.

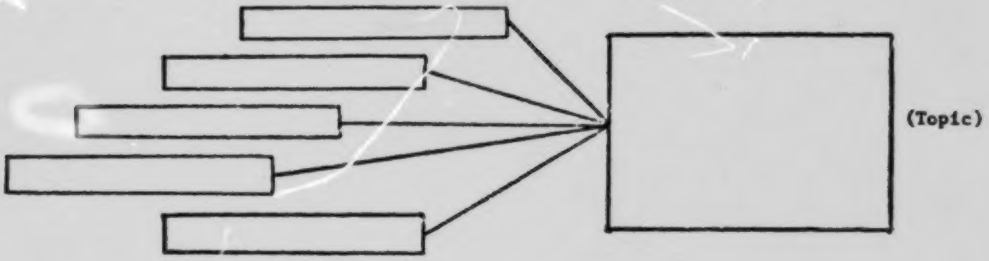
Directions

Read Paragraph A silently to determine the topic of the paragraph. Be careful not to choose an interesting detail as the topic. Then look at Diagram A below Paragraph A. In the large square, write what you have determined to be the topic of Paragraph A. Then identify the interesting (supportive) details from Paragraph A that combine to tell about the topic. Write each of these details in the small rectangles in Diagram A. Follow this same procedure for Paragraph B. If you need help with understanding these directions, or with any unfamiliar words in the paragraph, raise your hand and your teacher will aid you.

Paragraph A

Termites are little insects that can do much damage. They are about the size of ants, but they do more harm than ants. They eat wood, paper, and cloth. They have been known to eat books, chairs, tables, and even the walls of houses. These little insects can invade a house by the thousands, and once they move in, they never move out.

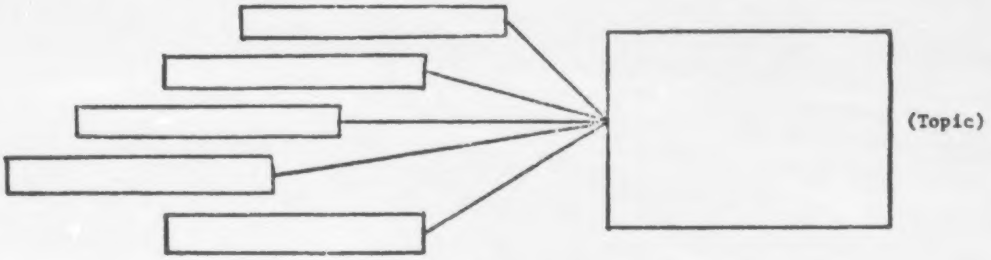
Diagram A



Paragraph B

Sometimes Bob helps Nat tune up an engine. Most of the time Bob washes windshields and pumps gas. He checks the water in car radiators and he changes oil filters. He is responsible for keeping the pop machine full. Bob even has to sweep up at night. There are many different jobs to do at a service station.

Diagram B



Checking Your Answers

Now that you have finished, compare your answers with those of your neighbor's. See if you both agree on the topic of each paragraph and the supportive details. Then check your answers with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the top-right corner of the front page if you had both paragraphs correct; 1 if 1 was correct; and 0 if none of the paragraphs were correct.

Skill 15
LFA, Lesson IB
Sheet 2

Purpose

The following exercise is designed for you to practice identifying the topic of a paragraph that is stated directly; and to separate the topic from supporting details.

Remember:

1. The topic of a paragraph is what the whole paragraph is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of the paragraph.

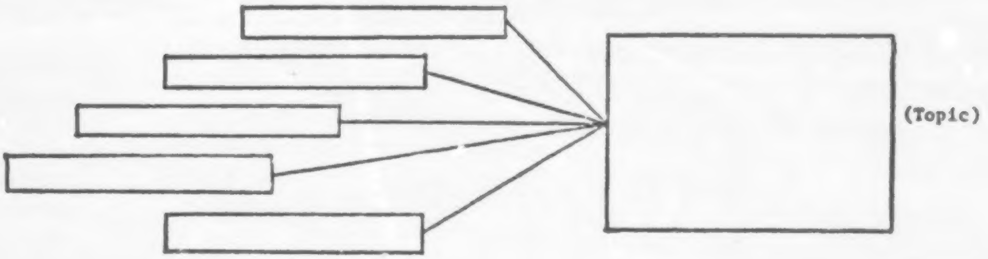
Directions

Read Paragraph A silently to determine the topic of the paragraph. Be careful not to choose an interesting detail as the topic. Then look at Diagram A below Paragraph A. In the large square, write what you have determined to be the topic of Paragraph A. Then identify the interesting (supportive) details from Paragraph A that combine to tell about the topic. Write each of these details in the small rectangles in Diagram A. Follow this same procedure for Paragraph B. If you need help with understanding these directions, or with any unfamiliar words in the paragraph, raise your hand and your teacher will aid you.

Paragraph A

Susan's clothes were in bad shape. Her only sweater, which she had gotten three years ago, was worn through at the elbows. Her winter coat had lost all of its buttons long ago and she only had one mitten. Susan's boots had holes in the soles. She didn't even have a clean scarf anymore because she got a grease stain on it.

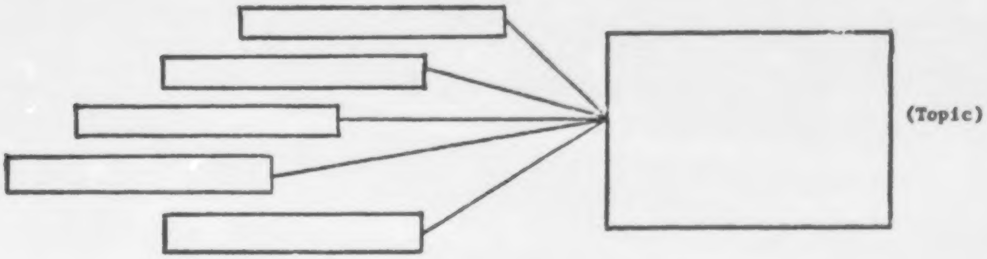
Diagram A



Paragraph B

There is a huge stone statue in the desert of Egypt. It is named the Great Sphinx. The statue is thousands of years old and is nearly as tall as a six-story building. The statue has the head of a man, but it has the body of a lion. The head and the body were cut from rock and the paws and legs were made of gigantic stone blocks.

Diagram B



Checking Your Answers

Now that you have finished, compare your answers with those of your neighbor's. See if you both agree on the topic of each paragraph and the supportive details. Then check your answers with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the top-right corner of the front page if you had both paragraphs correct; 1 if 1 was correct; and 0 if none of the paragraphs were correct.

Skill 15
LFA, Lesson IC
Sheet 3

Purpose

The following exercise is designed for you to practice identifying the topic of a paragraph that is stated directly; and to separate the topic from supporting details.

Remember:

1. The topic of a paragraph is what the whole paragraph is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of the paragraph.

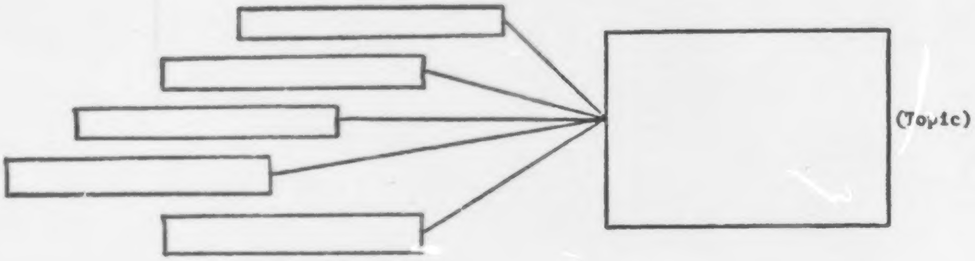
Directions

Read Paragraph A silently to determine the topic of the paragraph. Be careful not to choose an interesting detail as the topic. Then look at Diagram A below Paragraph A. In the large square, write what you have determined to be the topic of Paragraph A. Then identify the interesting (supportive) details from Paragraph A that combine to tell about the topic. Write each of these details in the small rectangles in Diagram A. Follow this same procedure for Paragraph B. If you need help with understanding these directions, or with any unfamiliar words in the paragraph, raise your hand and your teacher will aid you.

Paragraph A

Running a rapids in an open canoe can be dangerous. The canoe can ride up on a rock and overturn. It can get jammed against rocks and be almost impossible to remove. Sometimes high waves will cause the canoe to fill with water. Then it will be hard to get the canoe to go where you want it. The canoe can even sink.

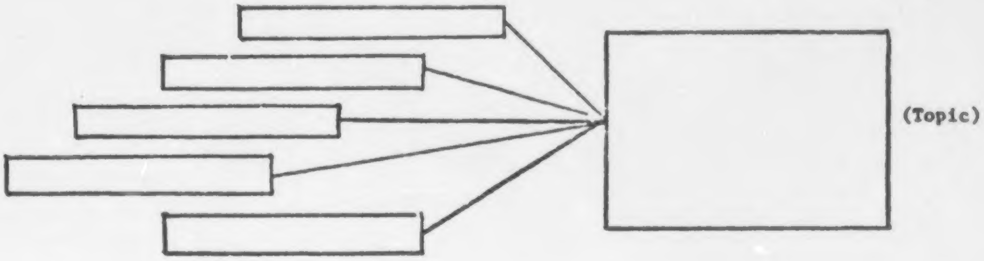
Diagram A



Paragraph B

Arrowheads can be made of many different kinds of materials, including bone, metal, stone, and wood. Sometimes arrowheads are poisoned. In the past, arrowheads have been set on fire in order to burn towns and enemy forts. There have even been whistling arrowheads. There are certainly many different kinds of arrowheads.

Diagram B



Checking Your Answers

Now that you have finished, compare your answers with those of your neighbor's. See if you both agree on the topic of each paragraph and the supportive details. Then check your answers with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the top-right corner of the front page if you had both paragraphs correct; 1 if 1 was correct; and 0 if none of the paragraphs were correct.

Skill 15
LFA, Lesson IIA
Sheet 4

Purpose

The following exercise is designed for you to practice identifying the topics of 3 paragraphs in a selection that are directly stated; then to identify the topic of the whole selection.

Remember:

1. The topic of a paragraph or selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of the paragraph.

Directions

Read the first paragraph carefully; then write its topic on the line to the left of that paragraph. Repeat this procedure for the second and third paragraphs. Based on the topics identified for each paragraph, write the main topic of the whole selection on the line at the top of selection. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask for help if you meet any unfamiliar words.

____
(main topic)

____
(topic)

One very good way to trace your family roots is to talk to your parents and relatives. Ask them to describe their memories of earlier family history. Most older family members have very interesting stories about the lives of your ancestors. Write down each of these stories. Make copies and send them to each of your family relatives. The stories you send may spark their memories about other earlier family events.

____
(topic)

Search in the attic, cellar, and closets for old trunks and boxes. These usually contain family-history items that have been handed down to your parents from your grandparents. Items such as old hats, clothes, pictures, tools, books, magazines, old letters, and sometimes even diaries can be found. You can match the items to historical dates, events, and places. This is an excellent way to trace your family roots.

____
(topic)

Holding annual family reunions is another way to trace your family roots. Parents, aunts and uncles, grandparents, and cousins enjoy talking about early family history. They all have at least one favorite story passed on to them about the exploits of a great-great grandparent or relative. As each person describes the story, the others recall other adventures they were told. As you listen, write these stories down. Make a booklet or file to save them.

Checking Your Answers

Now that you have finished, check your topics with those on the Teacher's Answer Sheet transparency projected on the screen. Score each correct topic as one point. Write the total number of topics you had correct on the top-right corner of the front page. There is a total of 4 possible correct topics. Pass this sheet back to the teacher before you leave class.

Skill 15
LFA, Lesson IIB
Sheet 5

Purpose

The following exercise is designed for you to practice identifying the topics of 3 paragraphs in a selection that are directly stated; then to identify the topic of the whole selection.

Remember:

1. The topic of a paragraph or selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of the paragraph.

Directions

Read the first paragraph carefully; then write its topic on the line to the left of that paragraph. Repeat this procedure for the second and third paragraphs. Based on the topics identified for each paragraph, write the main topic of the whole selection on the line at the top of selection. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask for help if you meet any unfamiliar words.

____
(main topic)

____
(topic)

Skimming is a very useful technique for reading a textbook. Students who skim the textbook as a whole, then skim each chapter as it is assigned, read with greater interest and understanding. By skimming the chapter, the student can note how the information is organized. Main divisions and summarizing paragraphs can also be quickly located. With this information, the student is able to set a higher level of concentration for reading.

____
(topic)

Another use for skimming is when reading a novel. The student can skim some of the chapters up to the middle portion of the book to decide if it is worth reading. Once settled on a novel, the student may skim the story to learn the setting, characters, plot, and conclusion. The student may then skim the novel a second and third time for criticism and evaluation.

____
(topic)

The news items of a newspaper are organized ideally for using skimming. The title or caption of the news item is the conclusion. The first paragraph summarizes what the news item is about. Then each paragraph that comes after includes information and descriptions that detail the events summarized. Knowing this, the student may skim many news items quickly and pick out the ones that are most interesting to read.

Checking Your Answers

Now that you have finished, check your topics with those on the Teacher's Answer Sheet transparency projected on the screen. Score each correct topic as one point. Write the total number of topics you had correct on the top-right corner of the front page. There is a total of 4 possible correct topics. Pass this sheet back to the teacher before you leave class.

Skill 15
LFA, Lesson 11C
Sheet 6

Purpose

The following exercise is designed for you to practice identifying the topics of 3 paragraphs in a selection that are directly stated; then to identify the topic of the whole selection.

Remember:

1. The topic of a paragraph or selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is often mentioned in the first or last sentence of the paragraph.

Directions

Read the first paragraph carefully; then write its topic on the line to the left of that paragraph. Repeat this procedure for the second and third paragraphs. Based on the topics identified for each paragraph, write the main topic of the whole selection on the line at the top of selection. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask for help if you meet any unfamiliar words.

____
(main topic)

____
(topic)

One kind of tea that is made is black tea. This is the most popular tea in the United States. Black tea has a coppery color in the cup. It has a very rich and robust flavor. The leaves are picked off the tea plant and set in the sun and air to dry and wither. The green leaves then change color and become a bright copper. Assam, Earl Grey, English Breakfast, and Lapsang Souchong are the names of popular black teas.

Green tea is another kind of tea. This kind has a light-green-colored appearance in the cup. Its flavor is distinctly different from black tea. Instead of being dried, the green tea leaves are softened by steaming and heating. This process enables the tea to keep its characteristic green color. Names of green teas include Basket Fired and Green Powder.

____
(topic)

There is a kind of tea that is "in-between" black and green tea. This tea makes a light-colored brew. The picked tea leaves are set out just long enough to dry and partially wither. The leaves then turn to a greenish-brown color. This kind of tea is called oolong tea, and it includes Formasu Oolong and Peppermint.

____
(topic)

Checking Your Answers

Now that you have finished, check your topics with those on the Teacher's Answer Sheet transparency projected on the screen. Score each correct topic as one point. Write the total number of topics you had correct on the top-right corner of the front page. There is a total of 4 possible correct topics. Pass this sheet back to the teacher before you leave class.

Skill 16
LFA, Lesson IA
Sheet 7

Purpose

The following exercise is designed for you to practice determining the topic of a paragraph that is not directly stated.

Remember:

1. The topic of a paragraph is what the whole paragraph is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always directly stated in a paragraph.

Directions

Read Paragraph A silently. Determine the topic of the paragraph. Write that topic at the bottom of the equation in Diagram A. Then supply the details described in Paragraph A that add up to make the topic in the blank spaces in Diagram A. You may not need to fill in every space provided in the diagrams. Follow this same procedure for Paragraph B. If you do not understand the directions fully, or if you need help with any unfamiliar words in the paragraphs, raise your hand and your teacher will aid you.

Paragraph A

The site for the new bus terminal is near Third Street and Hawkins Avenue. This site is now part of the city park system. The city would have to tear up three tennis courts and a skating rink to build the bus terminal there. In addition, drivers returning the buses to the terminal would have to cross several busy streets. This would probably cause traffic slowdowns in the area.

Diagram A

____

+ ________________________________

+ ________________________________

+ ________________________________

+ ________________________________

+ ________________________________

+ ________________________________

Topic = ________________________________

Paragraph B

The Freeton Recreation Department is sponsoring a class on swimming for senior citizens. On Mondays there is a class on textile printing and on Wednesdays instruction is given in basketball. Folk dancing is held on Thursdays. A person can learn to quilt on the first Monday of the month or play tennis on Tuesday afternoons. Car repair and jewelry-making courses are both taught on Saturday mornings.

Diagram B

____

+ ____________________________________

+ ____________________________________

+ ____________________________________

+ ____________________________________

+ ____________________________________

+ ____________________________________

____

Topic = ______________________________________

Checking Your Answers

Now that you have finished the diagrams, compare your answers with those of your neighbors. See if you both agree with topics of each paragraph and the details that add up to each topic. Then check your answers with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the top-right corner of the front page if you had both paragraphs correct; 1 if one was correct; and 0 if none of the paragraphs were correct. Before leaving class, pass this sheet back to the teacher.

Skill 16
LFA, Lesson IB
Sheet 8

Purpose

The following exercise is designed for you to practice determining the topic of a paragraph that is not directly stated.

Remember:

1. The topic of a paragraph is what the whole paragraph is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always directly stated in a paragraph.

Directions

Read Paragraph A silently. Determine the topic of the paragraph. Write that topic at the bottom of the equation in Diagram A. Then supply the details described in Paragraph A that add up to make the topic in the blank spaces in Diagram A. You may not need to fill in every space provided in the diagrams. Follow this same procedure for Paragraph B. If you do not understand the directions fully, or if you need help with any unfamiliar words in the paragraph, raise your hand and your teacher will aid you.

Paragraph A

Doing away with meals served on airplane flights may help to lower the cost of air travel. There could either be no meals served at all or travelers could pay for a meal if they wanted one. Another way to save money would be to use fewer flight attendants on each flight. Costs also might be lowered by scheduling night flights or flights in the middle of the week.

Diagram A

____

+ ____

+ ____

+ ____

+ ____

+ ____

+ ____

Topic = ____

Paragraph B

A snakebite isn't always serious, especially if the snake isn't poisonous. Even if the snake is poisonous, the bite is not always fatal. Much of the seriousness of a snakebite depends on the size and kind of snake. The location and depth of the bite is also important. Even the size and health of the victim can be a factor.

Diagram B

____

+ ______________________________

+ ______________________________

+ ______________________________

+ ______________________________

+ ______________________________

+ ______________________________

____

Topic = __________________________________

Checking Your Answers

Now that you have finished the diagrams, compare your answers with those of your neighbors. See if you both agree with topics of each paragraph and the details that add up to each topic. Then check your answers with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the top-right corner of the front page if you had both paragraphs correct; 1 if one was correct; and 0 if none of the paragraphs were correct. Before leaving class, pass this sheet back to the teacher.

Skill 16
LFA, Lesson IC
Sheet 9

Purpose

The following exercise is designed for you to practice determining the topic of a paragraph that is not directly stated.

Remember:

1. The topic of a paragraph is what the whole paragraph is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always directly stated in a paragraph.

Directions

Read Paragraph A silently. Determine the topic of the paragraph. Write that topic at the bottom of the equation in Diagram A. Then supply the details described in Paragraph A that add up to make the topic in the blank spaces in Diagram A. You may not need to fill in every space provided in the diagrams. Follow this same procedure for Paragraph B. If you do not understand the directions fully, or if you need help with any unfamiliar words in the paragraphs, raise your hand and your teacher will aid you.

Paragraph A

The tallest building in the world used to be the Empire State Building in New York City. It is 1,250 feet high. The John Hancock Center in Chicago almost beat that record. It is 1,127 feet high. The World Trade Center in New York is taller than the Empire State Building. It is a towering 1,350 feet high. It has 110 stories. But the big winner, so far, is the Sears Building in Chicago, at 1,450 feet.

Diagram A

____

+ ____

+ ____

+ ____

+ ____

+ ____

+ ____

Topic = ____

Paragraph B

Sam got out all his bills and income tax forms. He knew it would take a long time to fill out the complicated forms. He filled in the form using a pencil the first time. Sam made a lot of mistakes in adding and once he put a figure on the wrong line. He had to add one column five times before he was sure it was right. It took Sam five hours to finish the job.

Diagram B

____
+ ______________________________
+ ______________________________
+ ______________________________
+ ______________________________
+ ______________________________
+ ______________________________

Topic = ______________________________

Checking Your Answers

Now that you have finished the diagrams, compare your answers with those of your neighbors. See if you both agree with topics of each paragraph and the details that add up to each topic. Then check your answers with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the top-right corner of the front page if you had both paragraphs correct; 1 if one was correct; and 0 if none of the paragraphs were correct. Before leaving class, pass this sheet back to the teacher.

Skill 16
LFA, Lesson IIA
Sheet 10

Purpose

The following exercise is designed for you to practice identifying the topics of 3 paragraphs in a selection that are not directly stated; then to identify the topic of the whole selection.

Remember:

1. The topic of a paragraph or selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always directly stated.

Directions

Read the first paragraph carefully; then write its topic on the line to the left of that paragraph. Repeat this procedure for the second and third paragraphs. Based on the topics identified for each paragraph, write the main topic of the whole selection on the line at the top of the selection. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask for help if you meet any unfamiliar words.

____
(main topic)

____
(topic)

The first TV demonstration of sending sound and pictures over a long distance in America was given in 1928. The first TV commercial was for a Bulova clock. It was shown during a baseball game in 1941. In 1939 King George and Queen Elizabeth of England visited America. They became the first king and queen to appear on TV. The first TV color program, a variety show, was telecast to the American public in 1951. The first audience-participation show on American TV was a game of charades. It was shown in 1941.

____
(topic)

The first steam-powered car was made in 1886 by Henry House in Bridgeport, Connecticut. The first battery-powered car was built in 1891 in Des Moines, Iowa. It ran for 13 hours. In 1892 Charles Daryea built the first car for sale in America. The first auto accident occurred in 1896 when a car hit a bike rider. The rider broke her leg and the driver spent the night in jail. Jacob German was the first driver in America to be arrested for speeding. He was jailed for going 12 miles per hour in 1899. The first car to go over 400 miles per hour was driven at Bonneville Salt Flats, Utah, in 1947.

____
(topic)

In 1839 Colonel Abner Doubleday laid out the first baseball diamond. Basketball was first played in 1892. The first professional football game was played in 1895. Only the quarterbacks were paid. They got $10 and money for expenses. Juan Leivas won the steer-roping event of the first rodeo in 1888 in Prescott, Arizona. The first American athlete to win 4 olympic gold medals in one year was Jesse Owens in 1936. The first American boxing match for which tickets cost $10 took place in 1946. Joe Louis knocked out Billy Conn in the eighth round.

Checking Your Answers

Now that you have finished, check your topics with those on the Teacher's Answer Sheet transparency projected on the screen. Score each correct topic as one point. Write the total number of topics you had correct on the top-right corner of the front page. There is a total of 4 possible correct topics. Pass this sheet back to the teacher before you leave class.

Skill 16
LFA, Lesson IIB
Sheet 11

Purpose

The following exercise is designed for you to practice identifying the topics of 3 paragraphs in a selection that are not directly stated; then to identify the topic of the whole selection.

Remember:

1. The topic of a paragraph or selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always directly stated.

Directions

Read the first paragraph carefully; then write its topic on the line to the left of that paragraph. Repeat this procedure for the second and third paragraphs. Based on the topics identified for each paragraph, write the main topic of the whole selection on the line at the top of the selection. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask for help if you meet any unfamiliar words.

____
(main topic)

____
(topic)

Hang gliders need no fuel to fly. Yet you could stay up in the air for hours. The only thing needed is wind. Gilder pilots are known to step off the edge of a 400 foot cliff with nothing but a wing and prayer. These gliders resemble giant v-shaped kites. Each one is made of a brightly decorated parachute material. The pilot is supported in a harness hung from the center of the glider. A control bar is also attached to the glider at the center of gravity for steering. The heaviest part of the hang glider is the pilot.

________________________________ (topic)

How long do you think hang gliders have been around? Actually, Otto Lilienthal made the first flight with a hang glider in 1891. He later died when one of his gliders crashed 50 feet above ground. Around the turn of the century, the Wright Brothers began hang gliding. They gave up serious gliding when they became interested in motorized aircraft. About 25 years ago a man named F. M. Rogallo began designing and making the v-shaped hang gliders. They were similar to the ones used today.

________________________________ (topic)

You are first strapped into the support harness before taking off. To steer the glider, you grab onto the control bar. By pulling the bottom of the control bar toward you, the glider will tip and you will go up. Push the control bar away from you and you will begin to drop. By pushing, pulling, and leaning one way or the other, you will cause the glider to go in any direction you want.

Checking Your Answers

Now that you have finished, check your topics with those on the Teacher's Answer Sheet transparency projected on the screen. Score each correct topic as one point. Write the total number of topics you had correct on the top-right corner of the front page. There is a total of 4 possible correct topics. Pass this sheet back to the teacher before you leave class.

Skill 16
LFA, Lesson IIC
Sheet 12

Purpose

The following exercise is designed for you to practice identifying the topics of 3 paragraphs in a selection that are not directly stated; then to identify the topic of the whole selection.

Remember:

1. The topic of a paragraph or selection is what the whole selection is about.
2. Supportive details "add up" to become the topic.
3. The topic is not always directly stated.

Directions

Read the first paragraph carefully; then write its topic on the line to the left of that paragraph. Repeat this procedure for the second and third paragraphs. Based on the topics identified for each paragraph, write the main topic of the whole selection on the line at the top of the selection. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask for help if you meet any unfamiliar words.

____
(main topic)

____
(topic)

Many paragraphs we read begin with the topic or main idea in the first sentence. The sentences that follow include the details that support the main idea. A diagram of this paragraph style would look like an upside-down pyramid. The author wants you to know first what the selection is about. Then the details that follow will make more sense to you. News items in the newspapers and news magazines are examples of this style.

Sometimes the author doesn't want you to know the topic or main idea of the paragraph until the end. The details are given first. Then the main idea or topic is given in the last sentence. Editorials and propoganda are written this way many times. The author wants to support a personal view before telling you what that view is. It is hoped that you will believe the view based on the given supporting details. This paragraph style would look line a triangle in diagram.

____
(topic)

Other times the main idea or topic of a selection is never really stated for you at all. Instead, the author gives you many examples or details, that when added up, combine to make the main idea or topic of the paragraph. A diagram of this paragraph style would look like a square. Satire is a good example of this style.

____
(topic)

Checking Your Answers

Now that you have finished, check your topics with those on the Teacher's Answer Sheet transparency projected on the screen. Score each correct topic as one point. Write the total number of topics you had correct on the top-right corner of the front page. There is a total of 4 possible correct topics. Pass this sheet back to the teacher before you leave class.

Skill 17
LFA, Lesson IA
Sheet 13

Purpose

This exercise is designed for you to practice identifying a main idea that is stated directly in a paragraph.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole paragraph is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence in a paragraph.

Directions

Read the first and last sentences in Paragraph A. Then read the entire paragraph. Identify one sentence that tells the main idea of Paragraph A. Write that main idea sentence in the "Main Idea" space provided in Diagram A. Then write all the details in Paragraph A that add up to make the main idea in the "Supportive Details" spaces provided in Diagram A. Repeat the same procedure for Paragraph B. You may not need to fill in all the spaces provided for the "Supportive Details." Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

Many mentally ill or retarded adults are becoming more independent. They receive out-patient help from job counselors, psychiatrists, teachers, therapists, and other professionals. These people help the clients learn the social skills that are necessary for daily life. They also help the clients handle the day-to-day problems that everyone meets at work. Many of the clients have jobs in which they are carefully supervised. If something does go wrong, a trained person is there to help the client handle the problem.

Diagram A

Main Idea: ____

Supportive Details: (1)____________________________________

(2)____________________________________

(3)____________________________________

(4)____________________________________

(5)____________________________________

(6)____________________________________

(7)____________________________________

(8)____________________________________

Paragraph B

The cars crept slowly down the street. The day was sunny and clear but the ice had not yet melted on the street. Cars slipped sideways whenever they started or stopped. Pedestrians fell on the ice-covered sidewalks. The police reported over forty minor accidents had already been caused by the ice. It was a very bad day to have to drive anywhere.

Diagram B

Main Idea:____

Supportive Details: (1)____________________________________

(2)____________________________________

(3)____________________________________

(4)____________________________________

(5)____________________________________

(6)____________________________________

(7)____________________________________

(8)____________________________________

Checking Your Answers

Now that you have finished filling in the diagrams, check your answers with the Teacher's Answer Sheet transparency projected on the screen. Counting each possible blank as 1 point, add up the number of blanks you had correct and write that number in the top-right corner on the front page of this sheet. Pass this sheet to the teacher before you leave class.

Skill 17
LFA, Lesson IB
Sheet 14

Purpose

This exercise is designed for you to practice identifying a main idea that is stated directly in a paragraph.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole paragraph is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence in a paragraph.

Directions

Read the first and last sentences in Paragraph A. Then read the entire paragraph. Identify one sentence that tells the main idea of Paragraph A. Write that main idea sentence in the "Main Idea" space provided in Diagram A. Then write all the details in Paragraph A that add up to make the main idea in the "Supportive Details" spaces provided in Diagram A. Repeat the same procedure for Paragraph B. You may not need to fill in all the spaces provided for the "Supportive Details." Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

At 7:55 a.m., the Japanese planes flew in from the northwest. They had left their carriers 300 miles away and had arrived at Pearl Harbor practically undetected. Their sneak attack was so unexpected that almost the entire Pacific Fleet was caught unaware. Over 2,400 Americans were killed in the attack and almost 2,000 were wounded. The battleship Arizona was sunk with 1,177 men still trapped on board. Reaction around the world was immediate. This was the Day of Infamy, December 7, 1941, the day that the Japanese attacked Pearl Harbor.

Diagram A

Main Idea: ______________________________

Supportive Details: (1) ______________________________
(2) ______________________________
(3) ______________________________
(4) ______________________________
(5) ______________________________
(6) ______________________________
(7) ______________________________
(8) ______________________________

Paragraph B

In a recent case, the Supreme Court of the state of Washington has decided that girls must be allowed to try out for high school football teams. The case started when two sisters, each weighing over 170 pounds, asked to join their high school team. The coach said it was all right and the girls' doctor gave his approval. But the state association which regulates high school football would not permit the girls to join the team. The case went to court and the girls won permission to try out for the team. But it took so long for the case to be settled that one of the girls is in college and the other has turned to different sports.

Diagram B

Main Idea: ______________________________

Supportive Details: (1) ______________________________

(2) ______________________________

(3) ______________________________

(4) ______________________________

(5) ______________________________

(6) ______________________________

(7) ______________________________

(8) ______________________________

Checking Your Answers

Now that you have finished filling in the diagrams, check your answers with the Teacher's Answer Sheet transparency projected on the screen. Counting each possible blank as 1 point, add up the number of blanks you had correct and write that number in the top-right corner on the front page of this sheet. Pass this sheet to the teacher before you leave class.

Skill 17
LFA, Lesson IC
Sheet 15

Purpose

This exercise is designed for you to practice identifying a main idea that is stated directly in a paragraph.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole paragraph is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence in a paragraph.

Directions

Read the first and last sentences in Paragraph A. Then read the entire paragraph. Identify one sentence that tells the main idea of Paragraph A. Write that main idea sentence in the "Main Idea" space provided in Diagram A. Then write all the details in Paragraph A that add up to make the main idea in the "Supportive Details" spaces provided in Diagram A. Repeat the same procedure for Paragraph B. You may not need to fill in all the spaces provided for the "Supportive Details." Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

There are millions of working women in the United States. Working women seem to do their household chores faster than women who don't work. On the average a working woman spends about 26 hours a week on her housekeeping. On the weekends many women will cook several meals and freeze the extras for eating later. Some working women keep detailed lists of chores to do. Others stick to a firm schedule to get their work done. Working women need to organize their time carefully.

Diagram A

Main Idea: ______________________________

Supportive Details: (1) ______________________________

(2) ______________________________

(3) ______________________________

(4) ______________________________

(5) ______________________________

(6) ______________________________

(7) ______________________________

(8) ______________________________

Paragraph B

The driver lost control of the truck on the slick highway. The truck slid into the right hand ditch and the 30,000 pound houseboat fell off the truck. The driver was not hurt. The shippers of the boat were ticketed for not tying the boat down properly. They were also ticketed for allowing the boat to be shipped in bad weather. The results of the accident were certainly unusual.

Diagram B

Main Idea: ____________________

Supportive Details: (1) ____________________

(2) ____________________

(3) ____________________

(4) ____________________

(5) ____________________

(6) ____________________

(7) ____________________

(8) ____________________

Checking Your Answers

Now that you have finished filling in the diagrams, check your answers with the Teacher's Answer Sheet transparency projected on the screen. Counting each possible blank as 1 point, add up the number of blanks you had correct and write that number in the top-right corner on the front page of this sheet. Pass this sheet to the teacher before you leave class.

Skill 17
LFA, Lesson IIA
Sheet 16

Purpose

This exercise is designed for you to practice identifying the main idea of a paragraph.

Remember:

1. The main idea of a selection is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence of the paragraph.

Directions

Read Paragraph A and identify the sentence that is the main idea. Write this sentence on the line provided below Paragraph A. Then circle either beginning, middle, or ending to show where you found the main idea in Paragraph A. Repeat this procedure for Paragraph B and Paragraph C. Raise your hand if you need help with understanding these directions or any unfamiliar words in the paragraphs.

Paragraph A

Our reasons for studying are different from our reasons for general reading. General reading is usually by choice. We read for its own sake and for our own interests. Studying, on the other hand, is most often not by choice. Schoolwork demands that we read for specific information, like it or not. Rather than being pulled into reading by interest, we are most often pushed into studying by need.

____
(main idea)

beginning middle ending

Paragraph B

Our goals for studying are different from our goals for general reading. We are willing to settle for a light, general level of understanding in general reading. We aren't really interested in remembering every fact and detail. In studying, our goal becomes learning the information so that we can recall the specific details at will. Our aim is for permanent learning.

____

(main idea)

beginning middle ending

Paragraph C

The ways we study are different from the ways we generally read. In general reading we usually read a story once straight through. When we're through, we close the book or magazine and move on to other things. In studying, however, reading through the article once is only the beginning, not the end. We then re-read parts to remember them. We ask ourselves questions about the article as a way to review.

____

(main idea)

beginning middle ending

Checking Your Answers

Now that you have finished, check your answers with those on the Teacher's Answer Sheet transparency projected on the screen. Write the number of your correct answers on the top-right corner of the front page. There are 6 possible correct answers. Be sure to pass this sheet to the teacher before leaving class.

Skill 17
LFA, Lesson IIB
Sheet 17

Purpose

This exercise is designed for you to practice identifying the main idea of a paragraph.

Remember:

1. The main idea of a selection is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence of the paragraph.

Directions

Read Paragraph A and identify the sentence that is the main idea. Write this sentence on the line provided below Paragraph A. Then circle either beginning, middle, or ending to show where you found the main idea in Paragraph A. Repeat this procedure for Paragraph B and Paragraph C. Raise your hand if you need help with understanding these directions or any unfamiliar words in the paragraphs.

Paragraph A

Elephants are vegetarians. They do not eat meat. They like to eat grass, roots, bark, fruit, and leaves. Every day a full-grown elephant eats about 500 pounds of fresh greens. Their favorite food is the tender twigs and branches that grow at the tops of trees. If the branches are out of reach, the hungry elephant simply pushes the tree over to get to them.

____
(main idea)

beginning middle ending

Paragraph B

Elephants use their trunk for many different reasons. They use the end of the trunk to pick leaves and grass for food. The elephants suck water into the lower end of the trunk, then blow the water into their mouth. The trunk is sometimes used for giving themselves shower baths. Elephants also use their trunks for lifting, carrying, and throwing things. With their trunk, elephants can lift and move nearly 2,000 pounds.

____
(main idea)

beginning middle ending

Paragraph C

Elephants make a strange rumbling sound that can be heard a quarter of a mile away. This sound comes from their stomaches. If they smell hunters or other enemies, the elephants can be so quiet that they cannot be heard. They can turn off their rumbling sound at the first hint of danger.

____
(main idea)

beginning middle ending

Checking Your Answers

Now that you have finished, check your answers with those on the Teacher's Answer Sheet transparency projected on the screen. Write the number of your correct answers on the top-right corner of the front page. There are 6 possible correct answers. Be sure to pass this sheet to the teacher before leaving class.

Skill 17
LFA, Lesson IIC
Sheet 18

Purpose

This exercise is designed for you to practice identifying the main idea of a paragraph.

Remember:

1. The main idea of a selection is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is often stated in the first or last sentence of the paragraph.

Directions

Read Paragraph A and identify the sentence that is the main idea. Write this sentence on the line provided below Paragraph A. Then circle either beginning, middle, or ending to show where you found the main idea in Paragraph A. Repeat this procedure for Paragraph B and Paragraph C. Raise your hand if you need help with understanding these directions or any unfamiliar words in the paragraphs.

Paragraph A

Read for ideas, not words. Instead of reading one word at a time, chunk several words into phrases. These phrases are also called thought units. You will find it easier to understand three ideas given in a sentence than the 25 words that make up the sentence. While it may feel strange at first, you will find it easier to do as you practice. Reading in thought units will increase your reading speed.

____
(main idea)

beginning middle ending

Paragraph B

A very simple way to increase your reading speed is to improve your return sweep. The return sweep is the passing of your eyes from the end of one line of print to the beginning of the next. Think of your return sweep as the return key on an electric typewriter. Snap your eyes back to that next line of print. You will also find that you remember more of what you read.

____
(main idea)

beginning   middle   ending

Paragraph C

Break the habit of re-reading material you just finished. Nothing is so well written that you cannot afford to miss some of the ideas. Eliminating the re-reading of phrases, sentences or more will increase your reading speed. Force yourself to keep reading forward. You will find that you remember many of those thoughts you were sure you had forgotten.

____
(main idea)

beginning   middle   ending

Checking Your Answers

Now that you have finished, check your answers with those on the Teacher's Answer Sheet transparency projected on the screen. Write the number of your correct answers on the top-right corner of the front page. There are 6 possible correct answers. Be sure to pass this sheet to the teacher before leaving class.

Skill 18
LFA, Lesson IA
Sheet 19

Purpose

This exercise is designed for you to practice identifying a main idea that is not directly stated (written out) in a paragraph.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole paragraph is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always directly stated.

Directions

Read Paragraph A silently. Then read the suggested main idea sentences listed below the paragraph. Choose the one sentence that best states the main idea of Paragraph A and draw a line under it. Repeat this same procedure for Paragraph B. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

When outside in the Arctic, an Eskimo usually wears a parka. This protects his upper body from the intense cold. The Eskimo often wears another jacket under the parka for added warmth. Two pairs of pants are worn to keep the legs warm. The heat from the body is trapped between the two layers of clothes. Thick fur mittens are worn and sealskin boots called mukluks keep the feet comfortable. All this clothing must make moving around a bit ackward.

Suggested Main Ideas for Paragraph A:

A. The Eskimo wears special clothing to protect him from the cold.

B. Mittens made of fur keep an Eskimo's hands warm.

C. An Eskimo may wear two jackets to keep warm.

D. Air trapped between layers of clothing help keep the Eskimo warm.

Paragraph B

The tide went out to sea. It left behind hundreds of glistening shells. Some were red; some were yellow; others were many different colors. Driftwood lay around, smooth and gray, twisted into fantastic shapes. Sadly, there were also bottles, cans, and old plastic containers left on the beach by the retreating tide. The carelessness of human beings is discouraging.

Suggested Main Ideas for Paragraph B:

A. Bottles, cans, and old plastic containers lay on the beach.

B. The tide left driftwood behind on the beach.

C. The tide left many things on the beach as it retreated.

D. Shells of many different colors lay on the beach.

Checking Your Answers

Compare your main idea choices with those of your neighbor. Then check your choices with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the upper-right corner of the front of this sheet if you had 2 correct choices; write 1 if 1 choice was correct; and write 0 if you had no correct choices. Pass this sheet to the teacher before you leave class.

Skill 18
LFA, Lesson IB
Sheet 20

Purpose

This exercise is designed for you to practice identifying a main idea that is not directly stated (written out) in a paragraph.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole paragraph is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always directly stated.

Directions

Read Paragraph A silently. Then read the suggested main idea sentences listed below the paragraph. Choose the one sentence that best states the main idea of Paragraph A and draw a line under it. Repeat this same procedure for Paragraph B. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

Fishermen throughout the world catch hundreds of different kinds of fish. They use hooks, nets, traps, spears, arrows, and even birds to gather this harvest. Crabs, shrimp, and lobsters are also taken from the sea. In South America, salt is gathered by the Goajiro Indians from the water of the ocean. In Japan, seaweed is harvested and eaten. In many areas of the world, sponges are collected by divers.

Suggested Main Ideas for Paragraph A:

A. There are many useful things that we get from the sea.

B. Indians collect salt from ocean water.

C. Many different kinds of fish come from the sea.

D. Divers collect sponges in many parts of the world.

Paragraph B

Some people go camping with just some matches and a poncho. Others take a fully equipped trailer, complete with television and refrigerator. Most people seem to take the middle ground. They will have a tent of some kind and maybe even a few folding chairs. They will probably use a camp stove instead of a campfire for cooking and they will bring sleeping bags and air mattresses. Some campers prefer to "live off the land." This means they bring no food with them. They eat only what they can gather in the woods, catch in the lakes, or trap or shoot. But most people bring their food with them, except for the fish that they might or might not catch.

Suggested Main Ideas for Paragraph B:

A. Many people go camping in trailers.
B. There are many different [illegible] in camping.
C. To "live off the land" means to eat only what you can catch or pick.
D. Most people sleep in a tent when camping.

Checking Your Answers

Compare your main idea choices with those of your neighbor. Then check your choices with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the upper-right corner of the front of this sheet if you had 2 correct choices; write 1 if 1 choice was correct; and write 0 if you had no correct choices. Pass this sheet to the teacher before you leave class.

Skill 18
LFA, Lesson IC
Sheet 21

Purpose

This exercise is designed for you to practice identifying a main idea that is not directly stated (written out) in a paragraph.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole paragraph is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always directly stated.

Directions

Read Paragraph A silently. Then read the suggested main idea sentences listed below the paragraph. Choose the one sentence that best states the main idea of Paragraph A and draw a line under it. Repeat this same procedure for Paragraph B. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

Lily trimmed her dog Puddles' toenails. Then she gave the little dog a bath with baby shampoo and dried his fur with her hair dryer. She tried very hard to get the fur to fluff up into tiny ringlets. Then Lily trimmed some shaggy fur around Puddles' paws and brushed his long silky tail until it shone. Puddles got a new leather and rhinestone collar. For a final touch, Lily put a blue bow on top of the dog's head.

Suggested Main Ideas for Paragraph A:

A. The dog got a bath with baby shampoo.

B. Lily cut the dog's toenails.

C. Lily wanted the dog's fur to form little ringlets.

D. The dog was cleaned until he looked fluffy and neat.

Paragraph B

King Ramses II built two temples along the Nile River in Egypt over 3,000 years ago. It took 20 years to build the temples. In 1960 Egypt began to build a huge dam across the Nile. This dam would make a gigantic lake that would cover the two ancient temples. The dam was needed to provide water to turn desert into farmland. The temples were saved at the last minute. They were cut into large stone blocks and moved by truck to the top of a sandstone mountain. There the temples were put back together again. This cost over $36 million and took two years. Workers labored all day and all night, in two shifts, to finish the job before the lake reached the temples.

Suggested Main Ideas for Paragraph B:

A. The temples were cut apart and put back together again.

B. The temples were over 3,000 years old.

C. Two ancient Egyptian temples were saved from being covered by water.

D. The temple land was turned into farmland.

Checking Your Answers

Compare your main idea choices with those of your neighbor. Then check your choices with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the upper-right corner of the front of this sheet if you had 2 correct choices; write 1 if 1 choice was correct; and write 0 if you had no correct choices. Pass this sheet to the teacher before you leave class.

Skill 18
LFA, Lesson IIA
Sheet 22

Purpose

This exercise is designed for you to practice identifying the main idea of a paragraph that is not directly stated.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always directly stated.

Directions

Read Paragraph A silently. Then read the suggested main ideas listed below the paragraph. Choose the one phrase that best states the main idea of Paragraph A and draw a line under it. Repeat this procedure for Paragraph B and Paragraph C. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

Riding a bicycle helps to keep you trim and fit. You can travel at your own speed. You can cruise through the parks, enjoying the scenery and fresh air. You can cut through alleys and backyards in search of general adventure. Bikes do not pollute the air because they have no motors. Bikes are also easy to park.

Suggested Main Ideas for Paragraph A:

A. enjoying the scenery and fresh air

B. cutting through alleys and backyards

C. reasons for riding a bike

D. travelling at your own speed

Paragraph B

Reynolds Metal Company is paying 10 cents a pound for used aluminum cans in some cities. The cans are melted and used for other things. There are over 90 places in 21 states where glass companies are paying half a cent for each old bottle and jar brought in. The glass is crushed and used in building and highway material. Paper companies in New Jersey, California, Illinois, and other states are paying up to 70 cents for 100 pounds of old newspapers.

Suggested Main Ideas for Paragraph B:

A. collecting trash for money

B. collecting old glass bottles

C. collecting old newspapers

D. collecting used aluminum cans

Paragraph C

Patty smiled at the customers as they settled themselves in the booth. She quickly brought them glasses of water, place mats, and silverware. After a few minutes she returned to their booth to take their order. It was a long order because the two people were very hungry. But Patty was very careful to write down the order correctly. She brought the ham plate for one of the couple and roast beef for the other. She enjoyed doing a good job. When the couple left, Patty found a two dollar tip on the table.

Suggested Main Ideas for Paragraph C:

A. doing a good job

B. working as a waitress

C. getting a tip

D. bringing water and place mats

Checking Your Answers

Compare your main idea choices with those of your neighbor. Then check your choices with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the upper-right corner of the front of this sheet if you had 2 correct choices; write 1 if 1 choice was correct; and write 0 if you had no correct choices. Pass this sheet to the teacher before you leave class.

Skill 18
LFA, Lesson IIB
Sheet 23

Purpose

This exercise is designed for you to practice identifying the main idea of a paragraph that is not directly stated.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always directly stated.

Directions

Read Paragraph A silently. Then read the suggested main ideas listed below the paragraph. Choose the one phrase that best states the main idea of Paragraph A and draw a line under it. Repeat this procedure for Paragraph B and Paragraph C. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

The first "picture" of the Loch Ness monster was taken in 1934. The picture showed a long snake-line neck with a small head. Other people have described the monster as about 50 feet long and about 30 feet around the middle. Some scientists think the monster is a relative of prehistoric sea creatures. They feel the huge animals must have been trapped in the loch thousands of years ago.

Suggested Main Ideas for Paragraph A:

A. Loch Ness

B. scientific theories

C. the Loch Ness monster

D. prehistoric sea creatures

Paragraph B

The four biggest cities in the United States in 1973 were New York, Chicago, Los Angeles, and Philadelphia. Washington, D.C. and Cleveland were on the "top ten" list in 1970 but their populations have dropped by 1973. They were replaced by San Diego, California, and San Antonio, Texas. These numbers show two trends. Older cities in the eastern United States are losing people and cities in the Southeast and the West are gaining in population. Many people are moving to the suburbs and these people are not counted as living in the big cities themselves.

Suggested Main Ideas for Paragraph B:

A. San Diego added to "top ten"

B. older cities in eastern U. S.

C. moving to the suburbs

D. big city populations

Paragraph C

A hot-dogger may do the slow dog noddle. To do this the trick snow-skier sits on the back part of his skis and does several quick turns in a row. The hot-dogger may do the daffy, too. In this trick he moves his legs back and forth as if he were walking. Double forward and backward flips can be done by many hot-doggers. Some very good trick skiers even do triple somersaults.

Suggested Main Ideas for Paragraph C:

A. the daffy

B. hot-dogging

C. triple somersaults

D. the slow dog noddle

Checking Your Answers

Compare your main idea choices with those of your neighbor. Then check your choices with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the upper-right corner of the front of this sheet if you had 2 correct choices; write 1 if 1 choice was correct; and write 0 if you had no correct choices. Pass this sheet to the teacher before you leave class.

Skill 18
LFA, Lesson IIC
Sheet 24

Purpose

This exercise is designed for you to practice identifying the main idea of a paragraph that is not directly stated.

Remember:

1. The main idea of a paragraph is a sentence that summarizes what the whole selection is about.
2. Supportive details "add up" to become the main idea.
3. The main idea of a paragraph is not always directly stated.

Directions

Read Paragraph A silently. Then read the suggested main ideas listed below the paragraph. Choose the one phrase that best states the main idea of Paragraph A and draw a line under it. Repeat this procedure for Paragraph B and Paragraph C. Raise your hand for teacher assistance if you do not fully understand these directions. Be sure to ask if you need help with any unfamiliar words in the paragraphs.

Paragraph A

A 4-foot-11 inch woman filed a law suit against a big car company. The woman wanted to work in the factory on the assembly line. She felt she could earn more money there. People who interviewed her at the plant led her to believe that she would be able to do the work. But later she was told that she was too short for the job. The woman filed suit against the company for discrimination based on size. The company was not able to show that her size would keep her from doing a good job. The company was ordered to offer her job and to pay damages.

Suggested Main Ideas for Paragraph A:

A. suing the company

B. company must offer her a job

C. winning a discrimination suit

D. company felt she was too short

Paragraph B

Quicksand is fine sand that floats on underground water. Many people believe that quicksand will suck you down below the surface. This is not true. Quicksand seems to be sucking people under but actually the people are held because of a vacuum. When someone tries to free his feet from quicksand, a vacuum is created. There is not enough air in the wet sand to take the place of the foot. The vacuum holds the foot where it is.

Suggested Main Ideas for Paragraph B:

A. the vacuum holds the foot

B. quicksand floats on water underground

C. quicksand will suck you below surface

D. quicksand does not suck below surface

Paragraph C

There are many national landmarks in the United States. These can be visited, walked on, climbed on, and looked at, but only one can be ridden. That is the cablecar of San Francisco. Millions of people ride on the cablecar each year. Cablecars have been in San Francisco for over one hundred years. Spare parts are no longer available and repairmen have to build new parts from scratch. They will have to keep doing this for a long time because cablecars are now protected by law from disappearing.

Suggested Main Ideas for Paragraph C:

A. cablecars are landmarks that can be ridden

B. spare parts have to be made from scratch

C. millions ride cablecars each year

D. cable cars are over 100 years old

Checking Your Answers

Compare your main idea choices with those of your neighbor. Then check your choices with the Teacher's Answer Sheet transparency projected on the screen. Write 2 in the upper-right corner of the front of this sheet if you had 2 correct choices; write 1 if 1 choice was correct; and write 0 if you had no correct choices. Pass this sheet to the teacher before you leave class.

Skill 15
LFA, Lesson 1A

ANSWER SHEET:

Diagram A

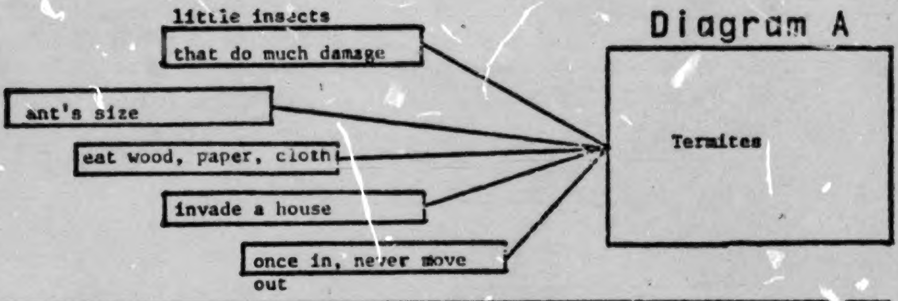
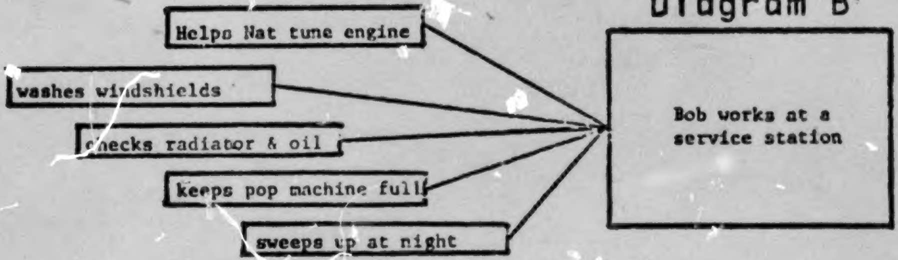

little insects
that do much damage
ant's size
eat wood, paper, cloth
invade a house
once in, never move out
Termites

Diagram B


Helps Nat tune engine
washes windshields
checks radiator & oil
keeps pop machine full
sweeps up at night
Bob works at a service station

Skill 15
LFA, Lesson IB

ANSWER SHEET:

Diagram A

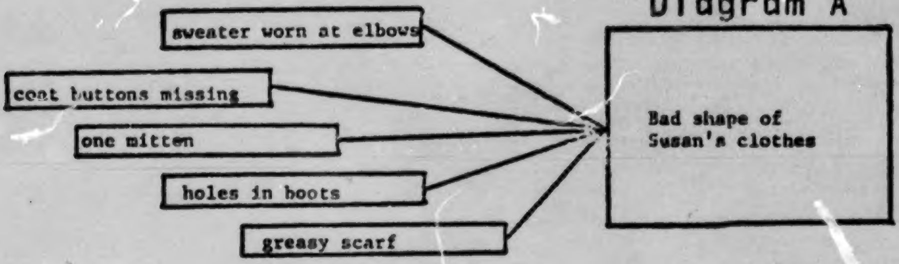
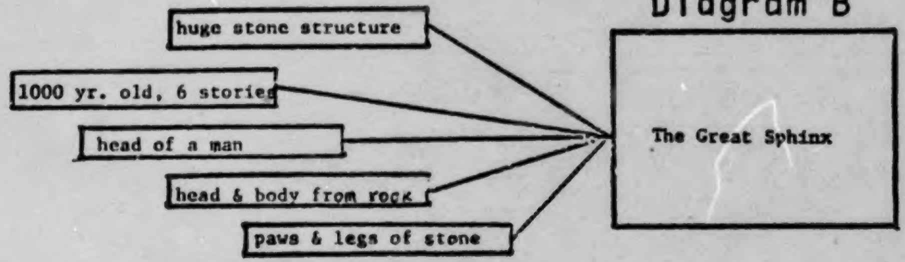

sweater worn at elbows
coat buttons missing
one mitten
holes in boots
greasy scarf
Bad shape of Susan's clothes

Diagram B


huge stone structure
1000 yr. old, 6 stories
head of a man
head & body from rock
paws & legs of stone
The Great Sphinx

Skill 15
LFA, Lesson IC

ANSWER SHEET:

Diagram A

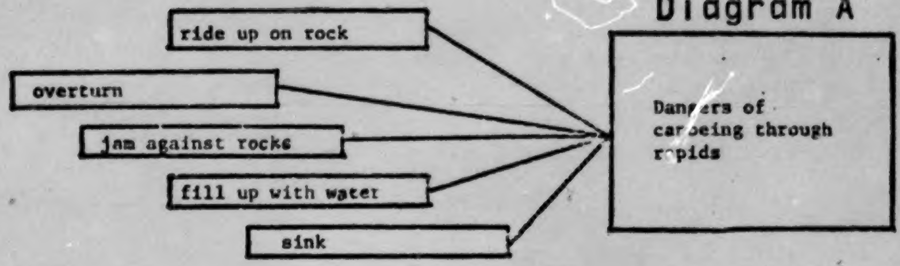
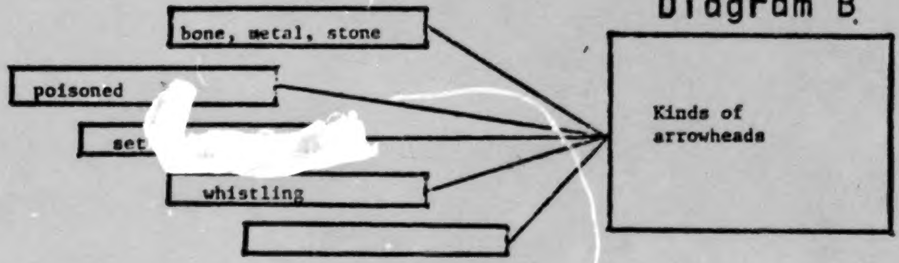

ride up on rock
overturn
jam against rocks
fill up with water
sink
Dangers of canoeing through rapids

Diagram B


bone, metal, stone
poisoned
set [illegible]
whistling
Kinds of arrowheads

Skill 16
LFA, Lesson IA

ANSWER SHEET:

Diagram A

site is now part of city park

+ have to tear up 3 tennis courts
+ have to tear up a skating rink
+ bus drivers would have to cross busy streets
+ cause traffic slowdowns
+ ____________________
+ ____________________

Topic - reasons why new bus terminal should not be built near 3rd St. and Hawkins Ave.

Diagram B

swimming for senior citizens

+ textile printing - Mondays
+ basket ball instruction - Wednesdays
+ folk dancing - Thursdays
+ quilting - 1st Monday
+ tennis - Tuesday afternoon
+ car repair & jewelry making - Saturday mornings

Topic - Freeton Recreation Department courses

Skill 16
LFA, Lesson IB

ANSWER SHEET:

Diagram A

do away with meals
+ travelers could pay if they want a meal
+ use few flight attendants
+ schedule night flights
+ schedule middle of the week flights
+ ____________________
+ ____________________

____

Topic - ways to lower cost of air travel

Diagram B

not always serious
+ not all skanes are poisonous
+ poisonous bite not always fatal
+ depends on size and kind of snake
+ location and depth also important
+ size and health of victim
+ ____________________

____

Topic - seriousness of snakebites

Skill 16
LFA, Lesson IC

ANSWER SHEET:

Diagram A

Empire State Building is 1,250 feet high
+ John Hancock Building is 1,127 feet high
+ World Trade Center is 1,350 feet high
+ Sears Building is highest building
+ It is 1,450 feet high
+ ______________________________
+ ______________________________

____

Topic - tall buildings

Diagram B

got out bills and income tax forms
+ filled in form with pencil
+ made adding mistakes
+ put a figure on the wrong line
+ added one column five times
+ took five hours to finish
+ ______________________________

____

Topic - Sam's problems filling out an income tax form

Skill 17
LFA, Lesson IA
Transparency 1

ANSWER SHEET:

Diagram A

Main Idea: Mentally ill or retarded adults are becoming more independent.

Supportive Details:
(1) receive outpatient help from professionals
(2) learn social skills needed for daily life
(3) receive help to handle day-to-day work problems
(4) many have closely supervised jobs
(5) trained person often there to help
(6) ____________________
(7) ____________________
(8) ____________________

Skill 17
LFA, Lesson IA
Transparency 2

ANSWER SHEET:

Diagram B

Main Idea: It was a very bad day to have to drive anywhere

Supportive Details:
(1) cars crept slowly down the street
(2) ice had not yet melted on the street
(3) cars slipped sideways when starting or stopping
(4) pedestrians fell on icy sidewalks
(5) 40 minor accidents were reported
(6) ____________________
(7) ____________________
(8) ____________________

Skill 17
LFA, Lesson IB
Transparency 1

ANSWER SHEET:

Diagram A

Main Idea: This was the Day of Infamy, Dec. 7, 1941, the day that the Japanese attacked Pearl Harbor.

Supportive Details:
(1) Japanese planes flew in from northwest at 7:55 a.m.
(2) flew 300 miles and arrived at Pearl Harbor undetected
(3) caught almost entire Pacific fleet unaware
(4) over 2,400 Americans killed in attack
(5) almost 2,000 wounded
(6) Arizona was sunk with 1,177 trapped
(7) reaction around the world was immediate
(8) ____________________

Skill 17
LFA, Lesson IB
Transparency 2

ANSWER SHEET:

Diagram B

Main Idea: In a recent case, the Supreme Court of the state of Washington has decided that girls must be allowed to try out for high school teams.

Supportive Details:
(1) start when two girls asked to join their team
(2) coach said it was all right
(3) girls' doctor gave his approval
(4) state regulation associations would not permit it
(5) girls won court permission to try out
(6) case took too long to be settled
(7) one girl is in college
(8) the other has turned to other sports

Skill 17
LFA, Lesson IC
Transparency 1

ANSWER SHEET:

Diagram A

Main Idea: Working women need to organize their time carefully.

Supportive Details:
(1) millions of working women in the U.S.
(2) working women do chores faster than women who don't work
(3) average working woman spends 26 hours a week housekeeping
(4) they cook several meals on weekends and freeze them
(5) some keep detailed lists of chores to do
(6) others stick to firm schedule
(7) ____________________
(8) ____________________

Skill 17
LFA, Lesson IC
Transparency 2

ANSWER SHEET:

Diagram B

Main Idea: The results of the accident were certainly unusual.

Supportive Details:
(1) driver lost control of the truck on slick highway
(2) truck slid into right hand ditch
(3) 30,000 pound houseboat fell off the truck
(4) driver was not hurt
(5) boat shippers ticketed for not tying boat down right
(6) boat shippers also ticketed for shipping boat in bad weather
(7) ____________________
(8) ____________________

Skill 18
LFA, Lesson IA

ANSWER SHEET:

Paragraph A

A. The Eskimo wears special clothing to protect him from the cold.

Paragraph B

C. The tide left many things on the beach as it reheated.

Skill 18
LFA, Lesson IB

ANSWER SHEET:

Paragraph A

A. There are many useful things that we get from the sea.

Paragraph B

B. There are many different styles in camping.

ANSWER SHEET:

Paragraph A

D. The dog was cleaned until he looked fluffy and neat.

Paragraph B

C. Two ancient Egyptian temples were saved from being covered by water.

APPENDIX G

LIST OF ACTIVITIES TO BE COMPLETED AND INSTRUCTIONAL MATERIALS AND TEST INSTRUMENTS TO BE USED IN EACH OF THE SKILL-BASED INSTRUCTION TREATMENT (G.1), SKILL MASTERY TESTING TREATMENT (G.2) AND CONTROL TREATMENT CLASSROOMS (G.3)

G.1.

SYLLABUS FOR CLASS INSTRUCTION

SKILL-BASED INSTRUCTION TREATMENT

2/17/77 (Thursday)	Skills 15, 16, 17, 18. "Reading Comprehension Tests" (Student Test Booklet (pp. 44-63). Teacher-Administered (Test Administrator's Manual, pp. 36-38).
2/21/77 (Monday)	+ English Content Instruction & Skill 15 "Topic with Organizer," Lesson I (Teacher's Handbook, pp. 108-110), TDA Transparencies 1, 2, 3.
2/22/77 (Tuesday)	E.C.I. & Skill 15. Lesson IA (Learner Focused Activities, Sheet 1), Answer Sheet Transparency IA.
2/23/77 (Wednesday)	E.C.I. & Skill 15. Lesson IB (Learner Focused Activities, Sheet 2), Answer Sheet Transparency IB.
2/24/77 (Thursday)	E.C.I. & Skill 15. Lesson IC (Learner Focused Activities, Sheet 3), Answer Sheet Transparency IC.
2/25/77 (Friday)	E.C.I. & Skill 15. Lesson II (Teacher's Handbook, p. 110), TDA Transparencies 1, 2, 3.
2/28/77 (Monday)	E.C.I. & Skill 15. Lesson IIA (Learner Focused Activities, Sheet 4), Answer Sheet Transparency IIA.
3/1/77 (Tuesday)	E.C.I. & Skill 15. Lesson IIB (Learner Focused Activities, Sheet 5), Answer Sheet Transparency IIB.
3/2/77 (Wednesday)	E.C.I. & Skill 15. Lesson IIC (Learner Focused Activities, Sheet 6), Answer Sheet Transparency IIC.

+ E.C.I. denotes regularly planned English Content Instruction.

3/3/77 (Thursday)	E.C.I. & Skill 15. "Reading Comprehension Test" (Student Test Booklet, pp. 44-47). Teacher-Administered (Test Administrator's Manual, pp. 36-37).
3/4/77 (Friday)	E.C.I. & Skill 16. "Topic Without Organizer" Lesson I (Teacher's Handbook, pp. 113-115), TDA Transparencies 1, 2, 3.
3/7/77 (Monday)	E.C.I. & Skill 16. Lesson IA (Learner Focused Activities, Sheet 7), Answer Sheet Transparency IA.
3/8/77 (Tuesday)	E.C.I. & Skill 16. Lesson IB (Learner Focused Activities, Sheet 8), Answer Sheet Transparency IB.
3/9/77 (Wednesday)	E.C.I. & Skill 16. Lesson IC (Learner Focused Activities, Sheet 9), Answer Sheet Transparency IC.
3/10/77 (Thursday)	E.C.I. & Skill 16. Lesson II (Teacher's Handbook, pp. 115-116), TDA Transparencies 1, 2, 3.
3/11/77 (Friday)	E.C.I. & Skill 16. Lesson IIA (Learner Focused Activities, Sheet 10), Answer Sheet Transparency IIA.
3/14/77 (Monday)	E.C.I. & Skill 16. Lesson IIB (Learner Focused Activities, Sheet 11), Answer Sheet Transparency IIB.
3/15/77 (Tuesday)	E.C.I. & Skill 16. Lesson IIC (Learner Focused Activities, Sheet 12), Answer Sheet Transparency IIC.
3/16/77 (Wednesday)	E.C.I. & Skill 16. "Reading Comprehension Test" (Student Test Booklet, pp. 48-51). Teacher-Administered (Test Administrator's Manual, p. 38).
3/17/77 (Thursday)	E.C.I. & Skill 17. "Main Idea with Organizer" Lesson I (Teacher's Handbook, pp. 118-120), TDA Transparencies 1, 2.
3/18/77 (Friday)	E.C.I. & Skill 17. Lesson IA (Learner Focused Activities, Sheet 13), Answer Sheet Transparency IA.

3/21/77 (Monday)	E.C.I. & Skill 17. Lesson IB (Learner Focused Activities, Sheet 14), Answer Sheet Transparency IB.
3/22/77 (Tuesday)	E.C.I. & Skill 17. Lesson IC (Learner Focused Activities, Sheet 15), Answer Sheet Transparency IC.
3/23/77 (Wednesday)	E.C.I. & Skill 17. Lesson II (Teacher's Handbook, pp. 120-121), TDA Transparencies 1, 2, 3.
3/24/77 (Thursday)	E.C.I. & Skill 17. Lesson IIA (Learner Focused Activities, Sheet 16), Answer Sheet Transparency IIA.
3/25/77 (Friday)	E.C.I. & Skill 17. Lesson IIB (Learner Focused Activities, Sheet 17), Answer Sheet Transparency IIB.
3/28/77 (Monday)	E.C.I. & Skill 17. Lesson IIC (Learner Focused Activities, Sheet 18), Answer Sheet Transparency IIC.
3/29/77 (Tuesday)	E.C.I. & Skill 17. "Reading Comprehension Test" (Student Test Booklet, pp. 52-57). Teacher-Administered (Test Administrator's Manual, pp. 39-40).
3/30/77 (Wednesday)	E.C.I. & Skill 18. "Main Idea Without Organizer" Lesson I. (Teacher's Handbook, pp. 124-126). TDA Transparencies 1, 2, 3.
3/31/77 (Thursday)	E.C.I. & Skill 18. Lesson IA (Learner Focused Activities, Sheet 19), Answer Sheet Transparency IA.
4/1/77 (Friday)	E.C.I. & Skill 18. Lesson IB (Learner Focused Activities, Sheet 20), Answer Sheet Transparency IB.
4/4/77 (Monday)	E.C.I. & Skill 18. Lesson IC (Learner Focused Activities, Sheet 21), Answer Sheet Transparency IC.
4/5/77 (Tuesday)	E.C.I. & Skill 18. Lesson II (Teacher's Handbook, pp. 126-127), TDA Transparencies 1, 2

4/6/77 (Wednesday)	E.C.I. & Skill 18. Lesson IIA (*Learner Focused Activities*, Sheet 22), Answer Sheet Transparency IIA.
4/7/77 (Thursday)	E.C.I. & Skill 18. Lesson IIB (*Learner Focused Activities*, Sheet 23), Answer Sheet Transparency IIB.
4/8/77 (Friday)	E.C.I. & Skill 18. Lesson IIC (*Learner Focused Activities*, Sheet 24), Answer Sheet Transparency IIC.
4/11/77 (Monday)	E.C.I. & Skill 18. "Reading Comprehension Test" (*Student Test Booklet*, pp. 58-63). Teacher-Administered (*Test Administrator's Manual*, pp. 41-42).
4/12/77 (Tuesday)	*Diagnostic Reading Tests: Survey Section, Form B*. Teacher-Administered (*Directions for Administering*).
5/12/77 (Tuesday)	*Diagnostic Reading Tests: Survey Section, Form D*. Teacher-Administered (*Directions for Administering*).

G.2.

SYLLABUS FOR CLASS INSTRUCTION

SKILL MASTERY TESTING TREATMENT

2/17/77 (Thursday)	Skills 15, 16, 17, 18. "Reading Comprehension Tests" (Student Test Booklet (pp. 44-63). Teacher-Administered (Test Administrator's Manual, pp. 36-38).
2/21/77 (Monday)	+ English Content Instruction
2/22/77 (Tuesday)	E.C.I.
2/23/77 (Wednesday)	E.C.I.
2/24/77 (Thursday)	E.C.I.
2/25/77 (Friday)	E.C.I.
2/28/77 (Monday)	E.C.I.
3/1/77 (Tuesday)	E.C.I.
3/2/77 (Wednesday)	E.C.I.
3/3/77 (Thursday)	E.C.I. & Skill 15. "Reading Comprehension Test" (Student Test Booklet, pp. 44-47). Teacher-Administered (Test Administrator's Manual, pp. 36-37).
3/4/77 (Friday)	E.C.I.

+ E.C.I. denotes regularly planned English Content Instruction.

3/7/77 (Monday)	E.C.I.
3/8/77 (Tuesday)	E.C.I.
3/9/77 (Wednesday)	E.C.I.
3/10/77 (Thursday)	E.C.I.
3/11/77 (Friday)	E.C.I.
3/14/77 (Monday)	E.C.I.
3/15/77 (Tuesday)	E.C.I.
3/16/77 (Wednesday)	E.C.I. & Skill 16. "Reading Comprehension Test" (Student Test Booklet, pp. 48-51). Teacher-Administered (Test Administrator's Manual, p. 38).
3/17/77 (Thursday)	E.C.I.
3/18/77 (Friday)	E.C.I.
3/21/77 (Monday)	E.C.I.
3/22/77 (Tuesday)	E.C.I.
3/23/77 (Wednesday)	E.C.I.
3/24/77 (Thursday)	E.C.I.
3/25/77 (Friday)	E.C.I.
3/28/77 (Monday)	E.C.I.

3/29/77 (Tuesday)	E.C.I. & Skill 17. "Reading Comprehension Test" (*Student Test Booklet*, pp. 52-57). Teacher-Administered (*Test Administrator's Manual*, pp. 39-40).
3/30/77 (Wednesday)	E.C.I.
3/31/77 (Thursday)	E.C.I.
4/1/77 (Friday)	E.C.I.
4/4/77 (Monday)	E.C.I.
4/5/77 (Tuesday)	E.C.I.
4/6/77 (Wednesday)	E.C.I.
4/7/77 (Thursday)	E.C.I.
4/8/77 (Friday)	E.C.I.
4/11/77 (Monday)	E.C.I.
4/12/77 (Tuesday)	*Diagnostic Reading Tests: Survey Section, Form B*. Teacher-Administered (*Directions for Administering*).
5/12/77 (Tuesday)	*Diagnostic Reading Tests: Survey Section, Form D*. Teacher-Administered (*Directions for Administering*).

G.3.

SYLLABUS FOR CLASS INSTRUCTION

CONTROL TREATMENT

2/17/77 (Thursday)	+ English Content Instruction
2/21/77 (Monday)	E.C.I.
2/22/77 (Tuesday)	E.C.I.
2/23/77 (Wednesday)	E.C.I.
2/24/77 (Thursday)	E.C.I.
2/25/77 (Friday)	E.C.I.
2/28/77 (Monday)	E.C.I.
3/1/77 (Tuesday)	E.C.I.
3/2/77 (Wednesday)	E.C.I.
3/3/77 (Thursday)	E.C.I.
3/4/77 (Friday)	E.C.I.
3/7/77 (Monday)	E.C.I.
3/8/77 (Tuesday)	E.C.I.

+ E.C.I. denotes regularly planned English Content Instruction.

3/9/77 (Wednesday)	E.C.I.
3/10/77 (Thursday)	E.C.I.
3/11/77 (Friday)	E.C.I.
3/14/77 (Monday)	E.C.I.
3/15/77 (Tuesday)	E.C.I.
3/16/77 (Wednesday)	E.C.I.
3/17/77 (Thursday)	E.C.I.
3/18/77 (Friday)	E.C.I.
3/21/77 (Monday)	E.C.I.
3/22/77 (Tuesday)	E.C.I.
3/23/77 (Wednesday)	E.C.I.
3/24/77 (Thursday)	E.C.I.
3/25/77 (Friday)	E.C.I.
3/28/77 (Monday)	E.C.I.
3/29/77 (Tuesday)	E.C.I.
3/30/77 (Wednesday)	E.C.I.
3/31/77 (Thursday)	E.C.I.

4/1/77 (Friday)	E.C.I.
4/4/77 (Monday)	E.C.I.
4/5/77 (Tuesday)	E.C.I.
4/6/77 (Wednesday)	E.C.I.
4/7/77 (Thursday)	E.C.I.
4/8/77 (Friday)	E.C.I.
4/11/77 (Monday)	E.C.I.
4/12/77 (Tuesday)	Diagnostic Reading Tests: Survey Section, Form B. Teacher-Administered (Directions for Administering).
5/12/77 (Tuesday)	Diagnostic Reading Tests: Survey Section, Form D. Teacher-Administered (Directions for Administering).

APPENDIX H

(H.1) LETTER OF REQUEST TO CONDUCT STUDY AND (H.2) LETTER OF PERMISSION

the
Wisconsin
Research and Development Center
for Cognitive
Learning

the University of Wisconsin · 1025 West Johnson Street · Madison, Wisconsin 53706 · (608) 263-4200

H.1.

LETTER OF REQUEST TO CONDUCT STUDY

Mr. Kurt Theil, Principal
Lowell P. Goodrich High School
382 Linden Street
Fond du Lac, Wisconsin 54935

Dear Mr. Theil:

I am requesting your permission to conduct a study with tenth-grade students at Lowell P. Goodrich High School during the spring semester of 1977.

The purpose of the study is to examine the effect of teaching specific comprehension skills on general reading comprehension. Three treatment groups will be identified: one group will be taught main idea subskills for eight weeks; a second group will be tested on the four subskills; and a third group will receive a control treatment. The three groups will be given a standardized reading test immediately following the treatment and a similar test one month later to assess their general comprehension performance.

Results of the analyses will be used to determine whether teaching comprehension skills will improve students' overall reading comprehension achievement. A bound copy of all results will be sent to Goodrich High School. Students' names will not be mentioned in the study. In addition, all instructional materials implemented in the study will become the permanent property of the high school.

If you have any questions regarding the implementation procedures or uses of the results, please contact me at my office number--608-263-4650.

I look forward to conducting this study at your high school. Thank you for your consideration of this request.

Yours very truly,

Paul J. Blohm

Paul J. Blohm
Department of Curriculum
and Instruction

H.2.

LETTER OF PERMISSION

LOWELL P. GOODRICH HIGH SCHOOL
382 LINDEN ST.
FOND DU LAC, WIS. 54935

KURT THIEL, Principal
RONALD L. McCREEDY, Assistant Principal
RICHARD A. JORGENSEN, Assistant Principal

December 22, 1976

Mr. Paul J. Blohm
Dept. of Curriculum and
Instruction
225 North Mills Street
Madison, Wisconsin 53706

Dear Mr. Blohm:

Your request for permission to conduct a study to serve as your doctoral dissertation at Goodrich has my approval.

The study as we discussed and as outlined in your letter sounds very interesting. I will be awaiting the results of this study eagerly, since I think that it may point the way to doing things a little differently.

Sincerely,

Kurt Thiel

/Kurt R. Thiel
Principal
vl

cc: Mr. Wayne Otto
Mr. Fred Cruckson
Mrs. Dorothy Keen